

THE MAGAZINE FOR AUSTRALIAN RADIO AMATEURS

Amateur Radio

Volume 76
Number 5
May 2008

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*Passing on the
amateur radio
baton*

*SARC
Slim Jim
building
day*



★ *A collett for holding square rod in a 3-jaw
lathe chuck*

★ *John Moyle experiences*

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Our Cover this month

Duncan Raymont VK3DLR showing young Aaron VK2FUNN and Kendall VK2FISH the wonders of amateur radio at Summerland ARC's Slim Jim building day. See story on page 33.

Photo by Robert Broomhead VK3KRB

Contributions to Amateur Radio

Amateur Radio is a forum for WIA members' amateur radio experiments, experiences opinions and news. Manuscripts with drawings and/or photos are always welcome and will be considered for publication. Articles on disc or email are especially welcome. The WIA cannot be responsible for loss or damage to any material. A pamphlet, 'How to write for Amateur Radio' is available from the National Office on receipt of a stamped self-addressed envelope.

Back Issues

Back issues are available directly from the WIA National

Office (until stocks are exhausted), at \$8.00 each (including postage within Australia) to members.

Photostat copies

When back issues are no longer available, photocopies of articles are available to members at \$2.50 each (plus an additional \$2 for each additional issue in which the article appears).

Disclaimer

The opinions expressed in this publication do not necessarily reflect the official view of the WIA and the WIA cannot be held responsible for incorrect information published.

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A radiocommunication service for the purpose of self-training, intercommunication and technical investigation carried out by amateurs; that is, by duly authorised persons interested in radio technique solely with a personal aim and without pecuniary interest.

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The world's first and oldest National Radio Society
Founded 1910

Representing

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Member of the

International Amateur Radio Union

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Peter Freeman VK3KAI

Club cooperation

It is interesting to observe that some clubs can usefully cooperate. One example of this is the Centre Victoria Radiofest, which has seen Amateur Radio Victoria, Central Goldfields ARC and Midland ARC running a large successful "hamfest" event this year and last. I am sure that there are other examples to be found.

One example that is developing occurs close to home, for me at least. Gippsland is a large area of eastern Victoria, being the area east of metropolitan Melbourne and south of the Australian Alps. To my knowledge, the region is currently serviced by three amateur radio clubs.

In December last, a Foundation training course was conducted by the Eastern Zone ARC (EZARC) in Churchill. Most participants were happy with the outcomes of the assessments held on the Sunday, with most gaining their Foundation licence and one successful completion of the upgrade to Standard. Amateurs from Bairnsdale, Drouin, Longford, and Leongatha, as well as the locals from the Latrobe Valley, assisted over the weekend, including the assessment event.

In the middle of April, the East Gippsland Radio Group held an assessment event at Longford. This time it was the turn of two of the EZARC amateurs, including me, to return the favour. It was a reasonably long day for all.

After an initial briefing, we started with the Regulations paper for all attempting Standard, and the Foundation paper. After marking the papers and giving all feedback on their efforts, the group decided it was time for lunch.

Some of the candidates organised a barbecue, including plenty of food for all, for lunch. A very social break was the result. After lunch, it was down to work again. The Standard candidates tackled the theory paper and our Foundation candidate completed the practical assessment. More paperwork, more feedback and finally congratulations to all involved from both sides of the event. The result, by now, should see one new Foundation callsign, one new Standard licensee and three upgrades to Standard.

Two others were successful with the Regulations paper. One candidate was happy with having gained some more experience in tackling formal written assessment tasks and will be back after he spends some more time with the books and the Radio and Electronics School learning materials.

With a large geographic region, only three clubs and a small number of Assessors and Facilitators, the only way that we can hope to encourage newcomers to the hobby is for the clubs to cooperate. Perhaps groups elsewhere should consider how they can work together for better outcomes for the hobby?

Broken Hill and the AGM

Planning on attending the WIA AGM later this month? I am sure that the team will have an excellent overall program arranged by the time of the event. Plans are moving towards their final shape and registrations are mounting rapidly. Immerse yourself in the history of Broken Hill, the Royal Flying Doctor Service, and the School of the Air. With after dinner speakers available on both Friday and Saturday evenings and organised activities during the day on Saturday morning and afternoon and Sunday morning, there is plenty to do. Even if you are not interested in all of the organised activities, there is plenty to offer in this regional centre. But book soon, as there are a limited number of places available.

I look forward to catching up with those attending. I am planning to attend, driving up on Friday and returning with an overnight stop in Mildura on Sunday, making it a four-day weekend. With a trip like this, perhaps it is time for me to consider mounting a HF antenna on the vehicle and to use the lower bands over the weekend – at present, I rarely venture down to the HF bands. I may even include a Yagi and mast for two metres, and see if I can work some stations via meteor scatter in the mornings, before the organised activities begin. I must remember to not play radio too long on Sunday morning, as I am told that there will also be a guest speaker at Sunday breakfast.

73

Peter VK3KAI

Forty years on

Some weeks ago I was helping look for something among old WIA papers with Robert Broomhead and Geoff Atkinson in the WIA's store room in Williamstown and we came across an old black and gold address book.

The second page was headed "1968 – Inaugural Region III Congress and 1968 Federal Convention" and then "Sydney Easter" and below that "1968".

While it was an address book, it had been used to record the names and signatures of those who participated in both meetings.

The reference to the 1968 Federal Convention was a reference to the fact that in those days the WIA, as a federal organisation, held every Easter its annual general meeting, called the Federal Convention attended by the "members", the WIA's state organisations, the "Divisions" and its so called Federal Executive, the people elected to conduct the business of the organization between the annual meetings.

The signatures show that Max Hull VK3ZS was Federal President, and John Battrick VK3OR was Federal Secretary.

Another signature was Ken Pincott VK3AFJ, Victorian President and Editor of AR.

But much more interesting were the signatures of those involved in the Inaugural Region III Congress that was conducted at the same time as the WIA Federal Convention in a different part of the same building.

There was Harry Burton ZL2APC from Wellington, New Zealand, as well as Tom Clarkson ZL2AZ, also from Wellington, New Zealand. Then, from Newton, Iowa, USA was Bob Denniston WDX, the President of the ARRL and as such, the President of the International Amateur Radio Union, the IARU, which was the hat he was wearing in Sydney. From Manila, Philippines was Emilio Asisitoras DU1EA, and from Tokyo, Japan Kan Mizoguchi JA1BK and Ken-ichi Kajii JA1FG.

So, the societies represented at the Inaugural Congress were JARL, NZART, PARS (PARA) and the WIA and, of course, the IARU.

And, I found my signature there, among the WIA names, as the "Federal Councillor" for Victoria! While I was not then involved with Region III, that did not take long to occur.

John Battrick VK3OR Federal Secretary was the WIA representative at the Inaugural Region III Congress. After that inaugural meeting the WIA provided a secretariat and Peter Williams VK3IZ became the secretary of the fledgling organization, and the three of us, John, Peter and I worked together over the next three years before the 1971 Tokyo Conference to create the draft Constitution that was amended and then adopted in Tokyo, to create the IARU Region 3 Association.

So, after that Region 3 had its own amateur organisation, joining similar organisations in Regions 1 and 2.

Why was it considered necessary to have a regional organization? At that time the IARU was effectively one society, the so called Headquarters Society, the ARRL. The President of the ARRL was ordinarily the President of the IARU, and the whole cost of the IARU was borne by the ARRL.

I think that the Regional organizations had developed in part because some considered the then structure of the IARU was not representative, and that together the societies could do more than what was then the single society that was the IARU.

And a couple of days after I had found this book of signatures, Fred Johnson ZL2AMJ, one of the great contributors to Region 3, pointed out that this year was the 40th birthday of IARU Region 3.

So many things have changed in the 40 years.

The Inaugural Conference was even before the World Administrative Radio Conference for Space

Telecommunications in Geneva, in 1971!

The ITU's World Radiocommunications Conferences (WRC) were then called World Administrative Radio Conferences (WARC) and were held every twenty years or so. Now they happen every three or four years. The Asia Pacific Telecommunity, the APT, did not exist, and the Region 3 organisation was not going to have to worry about any regional preparatory meetings for many years to come.

Today, as one WRC ends, work starts on the next one. The work is done in the ITU's study groups, the preparatory groups established by the regional organizations, in our case by the APT, and the groups established under the leadership of ACMA to develop our national position.

The IARU itself has changed.

Today the Constitution of the IARU recognises the three regional organizations, and creates the Administrative Council, consisting of the President, the Vice President, the Secretary and two representatives from each of the three Regional organizations. Basically, the Administrative Council formulates IARU policy.

And today the role of the Regional organization is much more meaningful. IARU Region 3 appoints two members of the Administrative Council and sends delegates to the APT preparatory meetings, now already preparing for WRC 11.

As we celebrate the 40 years of IARU Region 3 we should salute those who had the wisdom and vision to bring together the people who made the IARU Region 3 organisation come into existence, all those years ago in Sydney, Australia.

And also, let us be proud that the WIA was not only the host, but an important contributor to a development in amateur radio that was probably more important than was realised at the time.

Brett Dawson joins WIA ITU Team

The WIA is very pleased to announce that Brett Dawson VK2CBD has joined the WIA's team involved in the national preparation for the next major ITU Conference, WRC 11.

Brett joins Keith Malcolm, David Wardlaw and Gilbert Hughes.

Brett is known to everyone who attended the WIA's last AGM at Parkes, and visited the Parkes Observatory operated by the Australia Telescope National Facility of CSIRO.

Brett is also active in his local club, the Orana Region Amateur Radio Club at Dubbo

ACMA releases papers

ACMA has recently issued a number of papers concerning the Principles of Spectrum Management in Australia and a discussion paper in respect of various proposals to re-plan spectrum in the region of 420 to 512 MHz, with proposals affecting the 70 cm amateur band.

ACMA has also published details of their 5-year work plan that includes references to the 6 metre and 70 cm amateur bands. These papers can all be found on the ACMA website.

These papers have been published in time for the ACMA's radio-communications conference, RadComms08, which will be held from 30 April to 2 May 2008.

WIA Director Peter Young VK3MV will be attending RadComms 2008 on behalf of the WIA representing the amateur services.

The WIA will be making submissions on any proposals that affect the amateur services and will continue to actively follow these developments

Good things come to those who Wait

The WIA's much anticipated second edition Foundation Licence Manual "Your Entry Into Amateur Radio" is now at the printer.

"After months of preparation this is good news indeed", says WIA Director

and Manual Editor Phil Wait VK2DKN. "We were expecting the second edition manual to be ready in early April but it has dropped back a couple of weeks, mainly due to the fact that we wanted everyone involved to be absolutely happy with it."

"We think readers will be happy with it too, and it incorporates many of the comments and suggestions we received to the first edition, as well as extra pages containing information on antennas, propagation and single sideband."

Manuals will be available from the WIA office before the end of April.

The second edition will cost WIA Members \$19.50, \$25.50 posted. Copies can be ordered from the Bookshop part of the WIA website.

Clubs that have not already placed orders are encouraged to do so now.

New reference material on WIA Website

The WIA website has been enhanced by the addition of much additional regulatory material.

The Legislation section, which is under the Reference Information in the Members Area of the WIA Website, now contains all the important pieces of

legislation that govern the operation of amateur stations in Australia.

The site also contains the legislation that controls LIPDs, the EMR standard and Class Licences for Visiting Amateurs and the CBRS service.

Further work is being undertaken to link all the ACMA's information papers that relate to the amateur service.

ACMA now issuing HAREC endorsed Advanced Certificates of Proficiency

The WIA has been advised that ACMA has commenced the issue of a new Amateur Operator's Certificate of Proficiency (Advanced) [AOCP(A)]. The certificate incorporates statements to the effect the certificate's examination corresponds to the examination described in the CEPT recommendation T/R 61-02 (HAREC).

Amateurs who have obtained an AOCP(A) without HAREC recognition during the period while we were seeking HAREC compliance may obtain a new duplicate instrument at a cost of \$45.10.

ar

WANTED Volunteers to assist in the 2009 Callbook preparation

Must have internet access and be able to edit documents using Word or an equivalent word processing package.

Are you into IT?

We are specifically looking for someone to coordinate preparation of the electronic version of the Callbook.

If you are able and willing, please contact the editor (details on page 1 of *Amateur Radio*)

A collett for holding square rod in a 3-jaw lathe chuck

Drew Diamond VK3XU

The accepted method of machining four-sided material (such as square rod) is to hold the material in a 4-jaw chuck, whose jaws are independently adjustable. That is the way we were all taught at trades' school, and remains the strictly correct method.

But for a person (like me, and probably many others) who only uses his lathe occasionally, the job of setting up (say) six rods for machining and axial drilling, involves 12 insertions of the rods, each time requiring a careful re-adjustment of two or three jaws. Time consuming.

If the worker is able to accept a less than perfect, yet sufficiently accurate method, the collett idea is offered as a practical solution. For a worker who only owns a (common) 3-jaw, then its attraction is even greater (because it is impossible to hold square rod axially in a 3-jaw).

So the collett is a reasonable and cheap alternative to the standard 4-jaw method, and a fellow with only a 3-jaw in his kit can easily machine up a collett for use with some standard size (like 12 mm) square rod.

Pictured in Photo 1 is a handy dedicated collett for holding square rod. It is made from a 20 mm length of ordinary 25 mm diameter free-cutting bright mild steel.

With a vernier caliper, measure the exact diagonal distance of your rod. Nominal 12 mm square rod does indeed vary in size from time to time and from maker to maker, but generally (in the samples I have had) it is very close to 16 mm, which is fortunate, because it allows us to bore the axial hole to that standard drill diameter.

The annulus must have a single cut, applied with a hack-saw, along the entire length of one side. The rod should be chucked such that the slit will be compressed upon tensioning the 3-jaw, as illustrated in Photo 2, which shows the slit positioned about half-way between the jaws. Note that only a small part of the work should project from the

collet during end drilling and/or turning operations.

Interested in learning more about lathe work? The following texts are highly recommended:

Further Reading

1. Model Engineering - A Foundation Course; P Wright. Nexus Books (an excellent book, with much else of relevance to radio/electronics metal-work practice).
2. The Amateur's Lathe; Laurence H Sparey, Argus Books (UK) (still in print by popular demand).
3. The Amateur's Workshop; Ian Bradley, Argus Books (UK) (also still in print).
4. How to Run a Lathe; South Bend

Lathe Works (USA) - an oldie but a goodie, now available as a reprint from Lindsay Publications.

Photos: Karlen Dockrey.

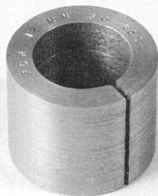


Photo 1 - A close-up of the collett showing the detail.

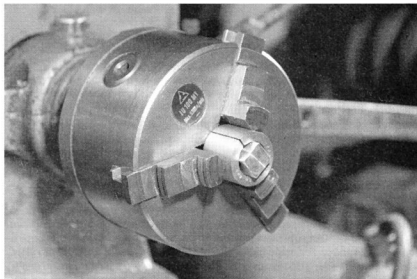


Photo 2 - A collett in a 3-jaw lathe chuck holding a length of 12 mm rod.

The 'RF mate'

Dale Hughes VK1DSH

The ability to measure various parameters of circuits, transmission lines and antennas is fundamental to radio frequency development work. RFmate is a device that can measure many parameters of interest; it consists of two modules (see Figure 2 for details):

The main module contains the microcontroller and associated circuitry, liquid crystal display, an AD8307¹ logarithmic amplifier and a frequency counter. This unit can measure frequencies up to 1300 MHz with a resolution of 1 kHz, and can measure power over a dynamic range of approximately 90 dB (from approximately -68 dBm to +22 dBm). Accurate relative and absolute power measurements can be made up to 500 MHz, with less accuracy up to 900 MHz. Amplitude resolution is 0.1 dB.

A second unit (Module 2) contains an AD8302² 'RF/IF Gain and Phase Detector' which allows for measurement of gain/loss over a +/- 30 dB range and phase angles over the range of 0 to 180 degrees. This device works up to 2.7 GHz. Amplitude resolution is 0.2 dB and angle resolution is 0.5 degrees.

The RFmate is reasonably simple to construct and offers considerable flexibility in use.

Signals from the various inputs can be simultaneously connected and measurements switched between them.

A minimum of external controls has been used, and as is common with modern instrumentation, 'soft keys' are used to select the various functions of the instrument. Multi-level menus allow the user to configure the device into the wanted mode and rapid switching between useful measurements is possible, avoiding the need to always switch back to the main menu. Selected measurements can be sent to a host computer using an RS-232 port for storage and later processing if desired.

Circuit Description

The main unit contains two circuit boards and the schematic diagram is shown in Figure 8. One circuit board holds the microcontroller and associated circuitry and another, upon which the log amplifier and prescaler are mounted. The microcontroller (U5) is an Atmel ATmega8535 device and it accepts analog and digital signals from the various input devices that are attached

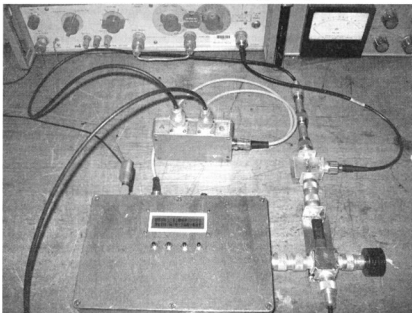


Figure 1: RFmate, AD8302 module, return loss bridge and 6 dB splitter in use measuring the input match of the RFmate. The second line of the display shows the 'soft key' functions.

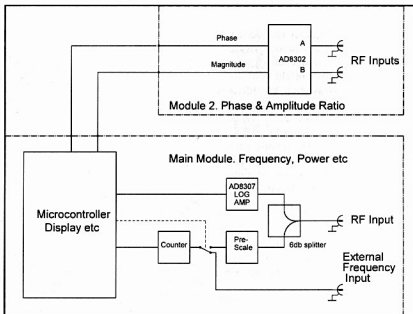


Figure 2: Block diagram of the RFmate. The switch that connects the prescaler to the counter input is a relay controlled by the microcontroller.

to it. An on-board 10-bit analog to digital converter converts the voltages to binary values which can be processed and displayed. So that accurate analog measurements can be made, a stable 5.120 V reference is provided by a REF02 device (U8). The reference voltage can be trimmed to exactly 5.120 V using potentiometer R8. Resolution of the ADC is 5 mV.

Frequency measurements are made using an internal microcontroller 16 bit counter which is coupled to an external 4 bit counter (U2B) to make a 20 bit frequency counter; the 4 bits from U2B are read into the microcontroller through four input lines on Port B. The external counter is reset by control line PB2, and the internal and external counters are reset every 4 milliseconds by means of an interrupt. The counter time-base is derived from the 4.096 MHz crystal via internal and external dividers, and this results in the input signal being gated to the counter for 2 ms every 4 ms. Transistor Q1 and gate U1d process the input signal and convert it to logic levels. This counter operates up to approximately 30 MHz with a 1 kHz resolution. Measurements up to approximately 1300 MHz with 1 kHz resolution are made using a divide by 64 prescaler (U10), the microcontroller software multiplies the measured frequency by 64 and switches the signal using relay RL1 when operating in the prescale mode. Maintenance of the 1 kHz resolution is achieved by effectively lengthening the sample period by 64 times. An external prescaler can also be selected so that frequency measurements can be made using other prescaler hardware; however the present software only supports a division ratio of 64. The signal source relay, RL1, is operated through a Darlington transistor output in U7 under software control.

Four push buttons and Schmidt triggers are used to control the device functions and the LCD shows the device settings and measured values. The LCD is configured in the four bit mode so that fewer control lines are required.

Signal level measurements are

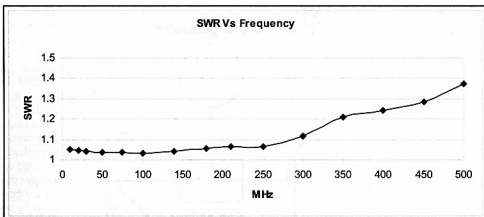


Figure 3: Input match of the main module vs. frequency. (This was measured by the RFmate using the external AD8302 module as shown in Figure 1) The input match is quite adequate for most measurement applications.

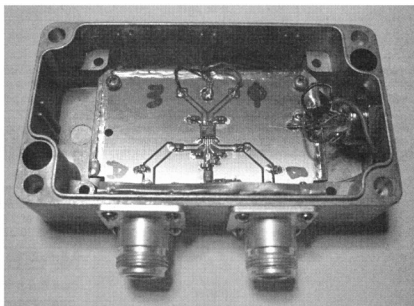


Figure 4: The AD8302 module. The Analog Devices data sheet should be consulted when using the AD8302 as circuit board layout is important for best performance of the device. Double sided circuit board was used, and small 0805 and 0603 surface mount components were used.

made using the AD8307 logarithmic amplifier (U9); its output is specified at 25 mV/decibel with a dynamic range approaching 90 dB. This input can be used to measure relative or absolute power; and by using a return loss bridge accurate return loss and SWR measurements can be made from low frequencies up to approximately 500 MHz (and lesser accuracy to 900 MHz). When operating in the power and return loss modes, a reference level can be set so that all measurements are relative to the reference point. If the input power

at the reference setting is accurately known, accurate power measurements from microwatts up to tens of milliwatts can be made. RF power is split between the prescaler and log amplifier by means of a 6 dB resistive splitter and the input is a good match to 50 ohms over a wide range of frequencies. An RS-232 interface is provided using the ubiquitous MAX232 (U6). A menu option selects its operation and information such as frequency, phase angle and magnitude information from the AD8302 can be transmitted to a host computer.

Signal generator

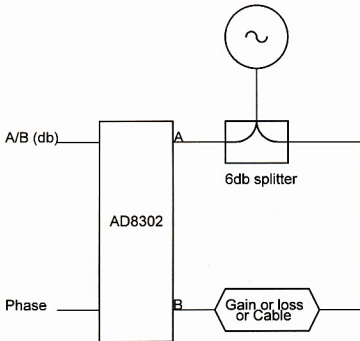


Figure 5: Setup for measuring circuit gain/loss, phase angle etc. Note that measuring phase angle requires some care, and difference measurements are more accurate than absolute measurements. Attenuators may also be needed on ports A and/or B to keep signals within the dynamic range of the AD8302.

The second module uses an Analog Devices AD8302 chip (Figure 9), which is a most interesting component: the device has two inputs and measurements

of phase angle and amplitude ratio (in dB) between the two inputs can be made to a maximum frequency of 2.7 GHz. The dynamic range is ± 30 dB

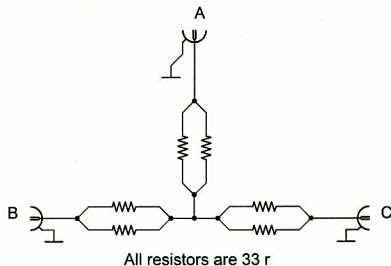


Figure 6: 6 dB resistive splitter. Power applied at port A is split equally between ports B and C. The splitter maintains a 50 ohm impedance for all ports when correctly terminated.

centred on -30 dBm, so some care is needed when using the device, otherwise its dynamic range can be exceeded with adverse effects on measurement accuracy. The range of phase angle is ± 180 degrees; however there is no easy way of determining which input leads or lags the other which means some care is required in interpreting the measurements. Also phase differences at angles less than 15 degrees or greater than 165 degrees have higher uncertainty. Despite these limitations, the AD8302 is an exceptional device and opens up exciting possibilities for test equipment. The possibilities include amplifier gain, attenuator loss, (electrical) cable length, return loss and SWR measurements. Even conversion gain or loss in mixers can be measured as the two inputs do not have to be the same frequency.

Construction

All of the modules should be easy to construct, however the AD8302 is a small surface mount device and the external components are also surface mount.

Applications

Measurement of frequency is straightforward; the only thing to consider is whether or not a prescaler is used and make the appropriate selection from the menu. Measurement of power or relative signal levels are also straightforward, readings in dB can be read directly from the display and, if required, a suitable reference level can be set e.g. 0 dBm, so that power measurements are then absolute. Reference levels can be saved to either EEPROM or SRAM. Reference levels saved to EEPROM are not lost when the power is switched off. Reference levels stored in SRAM are lost when the power is switched off and are most useful as temporary reference points when making gain or loss measurements.

One of the most useful applications of the unit is the measurement of return loss or standing wave ratios. There is a direct relationship between return loss and SWR, and the user can switch between the two scales. A lookup table in the system software is used to convert return loss in dB to SWR. When making measurements of this sort, a return loss bridge or directional coupler is used. A very good design for a RLB was

described in *Amateur Radio* magazine by Paul McMahon(3), a version of the design was constructed and its performance was found to be very good, allowing accurate measurement of return loss and SWR from 3.5 MHz to nearly 1 GHz. The unit that was constructed differed from the published design in that an open construction format was adopted and semi-rigid coaxial cable was used instead of the miniature Teflon cable that was specified. The simplest approach for using the RLB is to use the AD8307 log amp as detector for the bridge, although with care, the AD8302 can be used. If the reference level is set with the unknown port connected to high quality 50 ohm termination, the return loss of the unknown impedance can be directly displayed in dB. The user can switch to SWR and the software converts the return loss to voltage standing wave ratio.

Circuit gain or loss, cable loss and electrical length can be easily measured using the AD8302 module and Figure 5 shows how. Note that the frequencies of

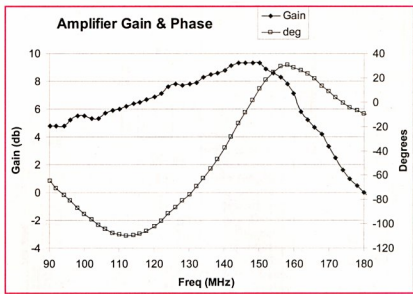


Figure 7: Measurement of gain and relative phase characteristics of a basic amplifier used on the 2 m band.

the signals on input A and B do not need to be the same, so it is possible to measure the conversion gain or loss of mixers as

long as the +/- 30 dB dynamic range is not exceeded. Optimum operation of the AD8302 requires that the power inputs

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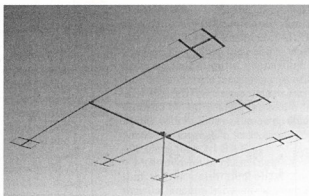
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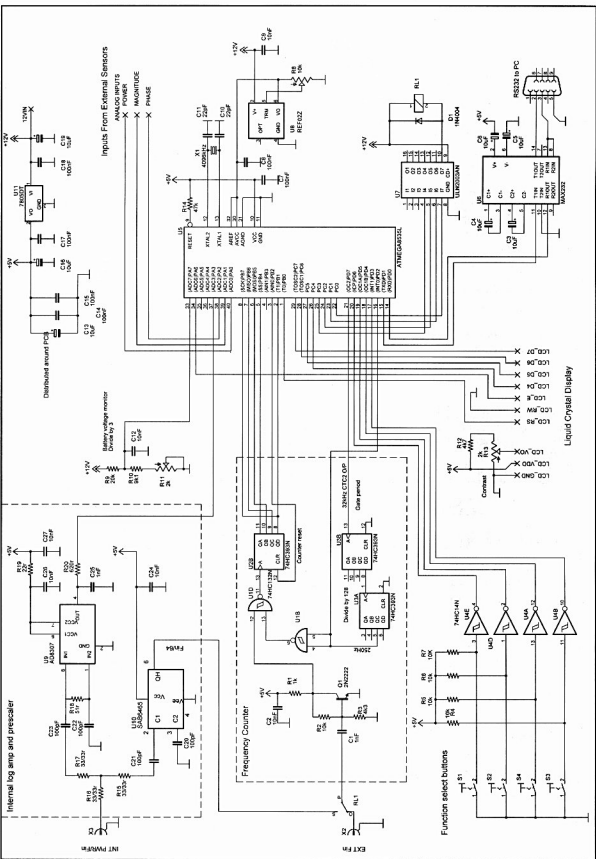


Figure 8: Schematic diagram of the main unit.

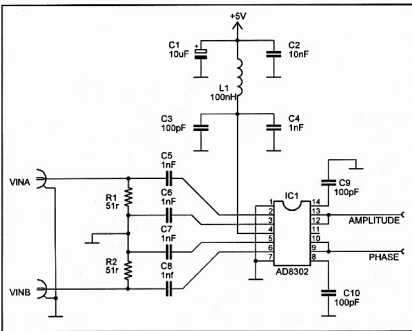


Figure 9: Schematic diagram of module 2, which measures gain/loss and phase angle using an AD8302.

can be made very quickly and the effects of any changes on the circuit performance rapidly checked.

An attempt to 'calibrate' the measurement was made by doing two sweeps: with and without the amplifier in place, then subtracting the 'without amplifier' from the 'with amplifier' measurements. This process should eliminate (or at least greatly reduce) the effect of connectors and cables. As the sweep was manually performed, the frequencies for the two sweeps did not exactly line up, so this is the cause of some of the 'bumps' in the chart. The whole process took only a few minutes. The data was then plotted using a spreadsheet; more sophisticated processing could be done using a Smith Chart if desired.

If a signal generator is not available, a suitably attenuated signal from a transmitter could be used, especially for making return loss or VSWR measurements.

Calibration

Calibration of the RFmate attenuation measurements is straight forward and is easily achieved using a number of attenuators with accurately known attenuation. Tests of a number of AD8307 devices showed that their output was an accurate indication of attenuation, as was the amplitude measurements of the AD8302. VSWR measurements can be checked by terminating the return loss bridge with resistors of known value to simulate a mismatch, for example 25 or 100 ohms for a 2:1 SWR.

Measurement of phase angle showed that the un-calibrated phase angle transfer function had a slight slope and intercept error, and that for accurate measurements some calibration was required (see Figure 5 for the setup). To calibrate the phase angle it is necessary to use a cable with a well known electrical length. In my case I used a good quality section of RG58 cut to be 2.475 metres long – assuming the velocity factor of the cable is 0.66. This length corresponds to an electrical length of 45 degrees at 10 MHz, 90 degrees at 20 MHz and 135 degrees at 30 MHz. The RFmate calibrate function is entered and the slope is adjusted until the measured phase difference between 10 MHz and 30 MHz is 90 degrees, the intercept is then adjusted so that the phase difference

being measured are centred on -30 dBm, so a selection of attenuators is useful for keeping the input levels around the optimum values (this requirement is covered in the data sheet). If the dynamic range is exceeded, the amplitude ratio measurements can be very confusing; however phase angle measurements appear not to be so affected.

The main issue with phase angle measurements, especially when measuring cable lengths, is in knowing what impact connectors have on the measurements. In effect, knowing exactly where a cable begins and ends (RF wise). Measurement accuracy is significantly reduced when making measurements within approximately 15 degrees of zero or 180 degrees. If an application requires measurement at these angles, it is better to insert a cable to add a fixed phase angle and then subtract the fixed phase angle from the measured results. Accuracies of 1 to 2 degrees should be achievable with care.

Another factor to consider when using the AD8302 is its high sensitivity; signal leakage from cables, signal generators and other sources can easily contaminate measurements. For example, if using the AD8302 and a return loss bridge to measure the SWR of an antenna, the measurements are easily corrupted by strong external RF sources. However

using the AD8307 a much greater signal power, say 10 milliwatts (+10 dBm) instead of 1 microwatt (-30 dBm) can be used to excite the return loss bridge and stray RF is not nearly as likely to corrupt the measured SWR.

A very useful device for use with the AD8302 is a 6 dB resistive splitter, which is a simple device that splits the applied RF power equally between the two ports. It can be made using any available resistors, however using surface mount parts will help to extend the usable frequency range. The performance of the device can be checked with the AD8302 very easily!

Measurement of amplifier performance is easily achieved and Figure 7 shows such a test. In this case a simple, single stage amplifier (BFR91A transistor) with a single tuned circuit on the input was connected to the AD8302 module; a 10 dB attenuator was fitted between the amplifier output and port B of the AD8302. The signal generator frequency was manually swept using (approximately) 2 MHz frequency increments and the output from the RFmate was logged on a PC connected to the RS-232 port of the RFmate. The logging function transmits frequency, amplitude ratio and phase angle information to the host PC every time the 'send' button is pressed. Measurements

is exactly 90 degrees at 20 MHz. The new calibration coefficients can then be saved to EEPROM for non-volatile storage. Using a low frequency for calibration lessens the problems of length uncertainty due to cutting accuracy and connector effects. Note: it is essential to use a quality coaxial cable with an accurately known velocity factor!

Software, PCB artwork and construction

The software consists of about 2800 lines of assembler code. Commented source code can be supplied to those who would like to construct a similar unit. A copy of AVRstudio4 will be required to assemble the code and some form of programmer will be required to program the microcontroller chip. AVRstudio4 can be downloaded from the Atmel website free of charge. Circuit board artwork in EAGLE format can also be supplied to interested readers.

Construction, in general, requires no special precautions or techniques. The only exception is that traces connecting the A and B inputs on the AD8302 should be symmetrical and the same length, this will ensure the most accurate performance.

Component availability

The Analog Devices parts (AD8307 and AD8302) were purchased directly from Analog Devices through their on-line purchasing facility. It is a convenient (although relatively expensive) method of obtaining parts that are otherwise difficult to purchase. The AD8307 can also be purchased through other local suppliers such as Mini-kits and Futurlec. The SAB6456 prescaler might be more difficult to obtain. It used to be commonly available through Dick Smith outlets, but it is no longer in their catalogue. However there are probably many devices lurking in

people's component stores waiting for a suitable application, so ask around. The ATmega8535 is readily available through Futurlec. None of the other components should be difficult to obtain.

References and suppliers:

Datasheet: AD8307 DC-500 MHz, 92 dB Logarithmic Amplifier. Analog Devices Inc 2003.

Datasheet: AD8302 LF-2.7 GHz RF/IF Gain and Phase Detector. Analog Devices Inc 2002.

McMahon, Paul. VK3DIP. 'A simple wideband return loss bridge revisited'. Amateur Radio, Volume 75, Number 6. June 2007

Atmel website: www.atmel.com

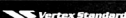
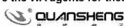
Analog Device website: www.analog.com

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Amateur television

– SA style

Barry Cleworth VK5BQ

This article describes an example of a relatively complex amateur television full duplex hook-up, allowing the eight operators involved to enjoy a round table discussion with video.

On 6 August the conditions prevailing on most of the UHF and microwave bands were exceptional and allowed a fairly rare type of ATV contact to take place.

From the accompanying diagram (Figure 1) it will be seen that there were four stations plus one digital ATV repeater in continual transmit mode, and four additional stations in receive mode.

Some interesting aspects of this contact included the fact that there were no less than five microwave bands in use, namely, 1250 MHz, 2.4 GHz, 3.4 GHz, 5.76 GHz and 10 GHz. Then, taking into account the distances involved, which varied from 60 km to 87 km, and that the location of several domestic stations was not very suitable for microwave transmissions, the success of this contact was quite gratifying.

Audio liaison and intercommunication frequencies involved the 2 metre and 70 cm bands.

From the diagram it will be seen that the ATV signals emanating from VK5BQ are capable of being received by all the other stations simultaneously. The picture and sound signals may be sourced from cameras at VK5BQ, or more often via a relay from one of the other three stations in the lower line on the diagram, that is, VK5ZTS, VK5AO, or VK5RD.

The relay facilities at VK5AO and VK5BQ are quite comprehensive. Routing changes are conveniently accomplished by the touch of a single button. An example from the diagram shows that a signal originating at Tom VK5ZTS on 3.4 GHz, is received by and converted to digital format by the digital repeater VK5RWH. The 1283 MHz digital signal is received directly by several stations, including Maitland VK5AO, who then relays it to VK5BQ on 5.76 GHz. VK5BQ then distributes the signals to the other members of the hook-up via 1250 MHz and 2.4 GHz.

Of course in any large roundtable like this, audio feedback may occur. In order to mitigate this problem, audio received from relayed stations is fed into separate inputs of an audio mixer with individual audio level controls and facilities for quality correction before input to the 1250 MHz transmitter at VK5BQ.

The 10 GHz relay received from Ben VK5RD is over a path length of about 68 km. It is no-where near a line of sight path, with the VK5BQ elevation



Photo 1: Graham VK5JD in his ATV shack.



Photo 2: ATV signals being received by Barry VK5BQ – Top L to R, Maitland VK5AO on 2.4 GHz, 86 km; broadcast TV: Ben VK5RD on 10.35 GHz, 68 km; Bottom L to R, Graham VK5JD on 1250 MHz, 82 km and Maitland VK5AO on 5.76 GHz.

being barely 100 feet (30 m), and Ben's elevation being considerably less. The use of parabolic dishes at both ends helps to produce P5 pictures about 80 per cent of the time, and this continues to surprise us.

Most of our transmitters are built up from kits sourced from

continued on page 15

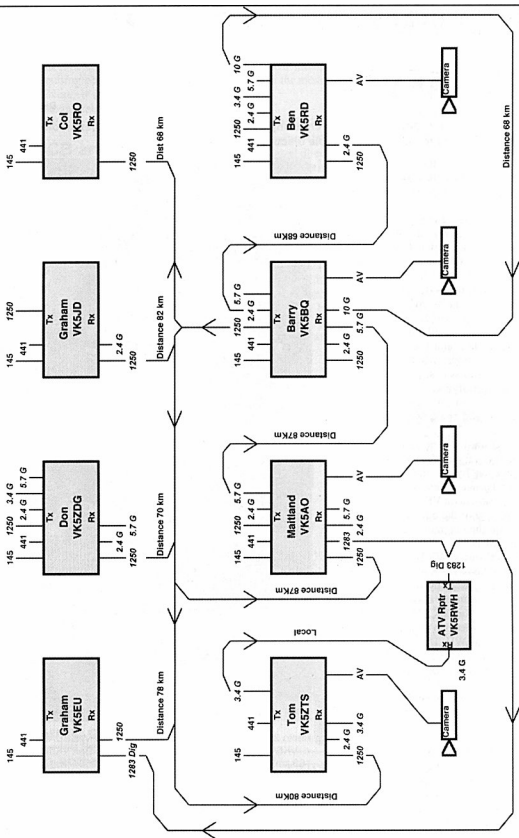


Figure 1: Showing the complex hook-up of the eight operators involved.

A WIA grant at work in East Gippsland

Bob Neal VK3ZAN
Secretary, EGARC.

The East Gippsland Amateur Radio Club Inc. was one of the few clubs to be successful in obtaining a grant from the first round made available from the then recently reorganized WIA.

We are one of the smaller clubs in the state with less than twenty members, and have established, and are maintaining, a total of four voice repeaters in the area. Three VHF repeaters serve some three hundred kilometres along the Princes Highway between Sale and the New South Wales border in the far east of the State, and the other repeater is a UHF system near Bairnesdale, which is configured to link into the VHF network, but is usually operated independently for local use.

Mt Cann was chosen because of the good VHF coverage along the highway and as a mid-point for the UHF links, but had the disadvantage that solar power was the only option. The system had been operating satisfactorily for a number of years until we had the misfortune of several solar panels being stolen during 2005.

Although we received the grant at the end of 2006 and the extra panel was purchased almost immediately, the site installation was not completed until May 2007. Some effort was made to improve the security of the panel before being taken to the site but serious bush fires in the area early in 2007 caused logging truck roads in the area to be closed for several weeks.

The three VHF repeaters along the Princes Highway are permanently linked through this mid-point repeater at Mt Cann, some fourteen kilometres south of the highway, and only accessible along rough logging truck roads that are unusable in wet weather.

Permanent linking was chosen because of the very few licensed amateurs east of Lakes Entrance and the repeater at the Mallacoota end is mainly used by travellers or holidaymakers in the area.

The system is configured to automatically relay the WIA broadcasts from the Mt. Baw Baw repeater to the far east of the state, with the exception that the Mt Cann repeater does not transmit the broadcast but acts only as a relay point to Mallacoota. This has been done to conserve energy at this solar powered site.

Our club meets monthly, and because of the large area from which the club draws its membership, our meetings are held alternatively at Maffra and Bairnesdale, some sixty kilometres apart. The club also has a WIA Assessor and Learning Facilitators who undertake assessments for all classes of licence in the eastern end of the state.

We appreciate the WIA support for this project as our small club would have had difficulty in restoring this power system without outside help.



The Mt Cann site where a team of five EGARC members installed the new solar panel during May 2007. The small wind driven generator also supplements power at this site.

Amateur television – SA style continued

Mark VK5EME at Minikits Australia. Receivers can vary quite a bit but include home brew converters and/or preamplifiers fed into a variety of commercial satellite receivers, usually analogue FM or digital, whichever is required. These Satellite receivers have become easy and cheap to acquire in the past, and still are from time to time.

Subjects for discussion on these nets vary widely, probably resulting from the use of ATV where it is possible to

put the cameras on new projects under construction, including antennas outside. These scenes are viewed and discussed by all involved within the group. Local scenery through the shack window can be interesting where a coastal or other aesthetically pleasing view is involved and this makes the contact more interesting to family members or visitors to participant's shacks. Some of our members have video clips of their

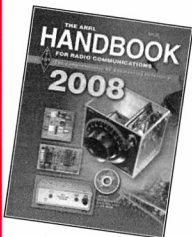
recent amateur activities and holidays, and these are readily playable through a VCR. Even computers with suitable video cards and frame rate can be connected to our transmitters.

So for those who have not experienced the mode of ATV, I can thoroughly recommend its advantages. In closing, I would like to thank Graham VK5EU for his contribution to the article, and in particular the block diagram.

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A screw-plate

Drew Diamond VK3XU

In radio/electronics work, it is often the case that an exact length screw is not available for a job, and so a longer screw must be cut to length. The hack-saw inevitably leaves a ragged end on the screw, which must then be dressed with a file in order that the nut may be fitted. But then it is often found that the nut will not start because some damage has been done to the thread, or a small unseen burr of metal remains.

Consider fabricating a 'screw-plate' for these jobs. The plate provides an effective method of holding the screw whilst the hack-saw is applied. After cutting, a hand file may then be applied to give the screw's end a nicely rounded, burr free finish.

Now, as the screw is withdrawn from the plate, any little pips or burrs will be cleanly removed from the thread.

The plate shown in Photo 1 is a 25 mm wide, 100 mm length of 3 mm mild-steel bar. Threaded holes spaced at 20 mm are provided for popular 3, 4, 5 and 6 mm screws.

See Reference 1 and/or 2 for information about tapping internal threads.

Further Reading

1. Drills, Taps and Dies; Tubal Cain. #12 in the Nexus Workshop Practice Series.
2. Model Engineering - A Foundation Course; P Wright. Nexus Books (an excellent book, with much of relevance to radio/electronics metal-work practice).

Photo: Karlen Dockrey.

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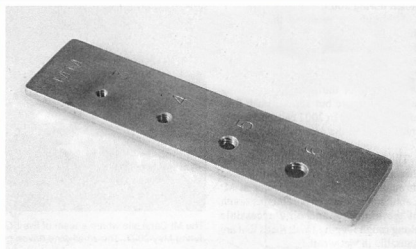


Photo 1 – A screw-plate for 3, 4, 5 and 6 mm screws.

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WIA awards seventh G A Taylor Medal in 20 years

Special recognition for Al Shawsmith

At their face to face meeting in early March the WIA Directors considered the WIA merit awards to be announced and presented at the Annual General Meeting, to be held this year on Saturday 24 May 2008 at Broken Hill.

For only the second time in 4 years, the Directors decided to award a GA Taylor Medal, this year to Al Shawsmith, known to all as VK4SS (even though he has passed that call sign on to his son).

However, recognising that Al, now aged over 90, would not be able to be in Broken Hill, the Directors decided to announce their decision and present the award early.

So on Saturday 29 March 2008 WIA President Michael Owen VK3KI, WIA Vice President Ewan McLeod VK4ERM and National Broadcast Coordinator Graham Kemp VK4BB went to Al Shawsmith's home in Whynot Street, West End, in Brisbane to make the presentation to Al in the presence of his family and friends.

In presenting the award, Michael said:

The WIA is an organization approaching its centenary and so it should be very conscious of its history, which is really the story of the people who have made it what it is.

It is also very important that we, the WIA, honour those people.

The Board of Directors met recently and considered who we should honour



Part of the gathering at the presentation of the GA Taylor Medal. Left to Right: Ewan McLeod VK4ERM, Al Shawsmith, Michael Owen VK3KI, Michael Charteris VK4QS, Graham Kemp VK4BB (seated in front)

at the next Annual General Meeting which will be held in Broken Hill at the end of May.

We wanted to honour someone who for so many years has been associated with the WIA and amateur radio, VK4SS, Al Shawsmith.

But we believed that Al would be unlikely to join us in Broken Hill, so we have come to Al's home in Whynot Street, in Brisbane, so we can today be with Al and his family.

Al, we wish to present you with the GA Taylor Medal.

This award was first considered over 25 years ago, and finally coming into existence 20 years ago, in 1988, as a silver medal of some intrinsic value. Its creation owes much to its primary proponent, the former VK6 Division of the federal WIA. It is named after George Augustus Taylor, the founding chairman

continued next page

Smithy says thanks

May I say thank you to the WIA President Michael Owen VK3KI and the Awards Committee for conferring on me Australia's ultimate award – the G.A. Taylor Medal – akin to the Roll of Honour.

To say thanks for this high honour seems utterly inadequate but let me assure all that this beautiful trophy has already assumed pride of place in my collection. Coming from my peers, it is the highest accolade.

I must say thank you to the WIA stalwarts who were present and I suspect were involved in this surprise presentation. They were: the President Michael Owen VK3KI (naturally),

VK4 Board member Ewan McLeod VK4ERM, newsman Graham Kemp VK4BB, President of the Ipswich Club Mike Charteris VK4QS, and some of the Shawsmith family. Last but far from least: TV station manager, executive, sound engineer, etc. Russell Num whose years of research into early wireless pioneers produced a tome so in depth and accurate that it was given Royal Assent and can now be read at the Royal Historical Society of Queensland. To Russ, all VK4s owe an unrepayable debt.

My present membership with the WIA stands at 73 continuous years. This is one man's whole lifetime. Yet for me this

journey seems all too short.

Currently I am culling my written material, printed locally and overseas. It may be a slow job but without assistance of many, many friends and helpers, little may have been heard or known of VK4SS. This is my debt to the fraternity in AR. One that I have tried to pay, in part.

So it is thanks once again to one and all. I will say my au revoir, not goodbye, because who knows, there is hopefully a place I wrote of in my last poem in Halcyon Days.

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Alan Shawsmith VK4SS
WIAQ Historian 27 years

The axe at the base of the tree

I am surprised that a third of the year has already passed. Here we are in May and winter is here. We had temperatures in the high thirties as late as mid-March and within 24 hours, the thermometer plummeted to below 10 degrees. I had to put the heater on because it became so cold. Later on there were gale force winds, some even registered as hurricane force. Fortunately I do not have any outside antennas, so was spared any damage.

The BBC World Service made further unannounced cuts to the shortwave schedule to tie in with the A-08 broadcasting period. They axed the service to the Caribbean, saying there were sufficient partner broadcasters already providing relays via AM or FM and shortwave relays were no longer needed. As well, the remaining transmissions to Central and South America were also discontinued. The services to Asia were also reduced and the BBC Singapore relay station would not operate from 0100 to 0900 UTC. Services to Africa are unaffected mainly because the Internet is extremely scarce. Although the BBC is relayed in some countries via domestic partners, some

nations are extremely hostile to the BBC and the use of shortwave will be required there for many decades.

On 31st March, Kol Israel in Jerusalem closed down the shortwave service. We have often heard that this was going to happen and usually at the last minute, money was found to continue the shortwave relays. However, the administrators did pull the plug and Kol Israel is now confined to either streaming on the Net or via podcasting. You can find it at www.intkolisrael.com. When they decided to close down the ageing HF senders, it was realised that broadcasts in Farsi or Persian would not get through the Internet gatekeepers in Teheran and thus programming via HF would have to continue. The Israel Defence Forces Radio, Galeel Zahal, continues on shortwave in Hebrew and is heard here on 6973 USB.

You also may have heard the American religious broadcaster, KTBN on 7505 kHz. This station started off originally with a pop music format but was not commercially successful and was eventually sold to the Trinity Broadcasting Network. The sender was

located near Salt Lake City, Utah. KTBN did not have any original programming and was basically an audio feed on the TBN television network. Gradually the modulation dropped off and it became difficult to hear it and it was no surprise that it was finally switched off on 31st March.

Also I notice that Radio Netherlands Worldwide has stopped relaying broadcasts to Asia and the Pacific via the CIS and started from senders in Tinian and Saipan. This also will mean VOA programs will be heard via Bonaire in the Netherlands Antilles.

Turkey is another broadcaster which has commenced relaying from a North American site, namely Sackville in Canada. I believe that this has made it easier for Turkey to be heard in North America. Greece used to also broadcast from the VOA sites but this concluded when the VOA closed down their Greek sites a few years ago.

Well that is all for this month. Do not forget you can email any news to me at vk7rh@wia.org.au.

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Special recognition for Al Shawsmith continued

of the Wireless Institute of New South Wales, out of which grew today's WIA.

So the Medal came into existence just one year after your book, *Halcyon Days* was published.

Your contribution to amateur radio and the WIA, particularly the Queensland Division of the WIA is well known.

Also well known was the Al Shawsmith Journalistic Award, an award to recognize and encourage the quality of writing in the WIA magazine, *Amateur Radio*. That award lapsed but now as the award for the best non-technical article has, thanks to your generosity, been revitalized and will again be presented this year in Broken Hill, as the Al Shawsmith Award, but now the award itself is so structured that it will be an award in perpetuity.

And, yes, we ignored your wish that your name be not associated with the award. That it comes from you is too important to ignore.

Perhaps your most important gift to the WIA was only made several years ago, when you donated a sum of money to the WIA for educational purposes. That enabled us, last year, to train and qualify a number of WIA Assessors from remote areas. Our successful case to become the ACMA preferred examination system manager relied on a coverage of qualified Assessors across our country.

So, in the past, as WIA historian, and as a prolific writer on amateur matters, and more recently you have provided a special service for the WIA. And it is

for a special service that the GA Taylor Medal is given

And the GA Taylor Medal is not lightly given.

It is a very special recognition.

Indeed, since its inception 20 years ago, there have been 6 awards of this Medal, so this becomes the seventh awarded, and only the second since the WIA became a national body in 2004.

So, Al, please accept this award, the GA Taylor Medal, presented by the WIA to one of its members, an Honorary Life member, to honour what you have done for the WIA and amateur radio.

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see also inside back cover

The John Moyle Field Day Reports

EMDRC VK3ER Report

Jack Bramham VK3WWW

On Friday 14th March, four vehicles containing six members of the EMDRC radio club headed off to Mount Cowley in the Otway Ranges near the coastal town of Lorne. All four vehicles left Melbourne at different times and met up at Benwerrin on the Deans Marsh to Lorne Road. When the fourth vehicle arrived, the convoy took the dusty Mt Sabine road for the 30 minute trip to the telecommunications tower located on the summit of Mount Cowley.

Friday was a very hot day at around 40 deg C. During the week leading up to our departure, the weather had been very dry and hot. Friday was declared a Total Fire Ban for the whole State and this meant we would not be able to cook using an open flame. There would be an issue running the generators however we later found out that generators can be used during total fire bans but the strict regulations make it difficult to operate them safely. Not knowing if a fire ban would be declared for Saturday and Sunday we carried a DC power source, totalling around 800 AH, so we would be able to operate for some time before our supply ran out.

Our station setup is very settled now and setting up 6, 2, 70 and 23 has become very routine. We commenced the assembly about 08:00 and by 11:15

were ready for the 12:00 noon start to the contest. Craig VK3FCLS visited us while we were setting up the site. HF operations from VK3ER/P have not occurred for some time, but with two keen additional operators, a station was set up that included a Yaesu FT-100D transceiver, Metron MA1000B Solid State amplifier and MFJ-986 roller inductor tuner feeding a droopy dipole at about 12 m. This is the same setup that has netted over 12,000 QSOs from four IOTA expeditions in which some members of the group have previously been involved.

With no Total Fire Ban declared for either day we were able to operate the petrol generators. Two Honda EU20i and two EU10i generators enabled us to operate full power on all bands for the duration of the contest. In fact, whilst most of the State had hot and humid conditions, we enjoyed ideal temperatures on the mountain top with even the wind dropping to just a gentle breeze for most of the time.

Our operating positions for the weekend were mainly 6 m Mike VK3AVV, 2 m Jack VK3WWW, 70 cm Max VK3WT, 23 cm Peter VK3QI and HF Dave VK3DLR and Jim VK3AMN.

Activity was good and we managed quite a few QSOs on all bands. On 23 cm it was interesting to get 59+ reports from VK5SR/P located at Mount Gambier

with enhanced band conditions. Working a 23 cm station at this distance was a great result.

Early on Sunday morning we were joined by Jonas VK3VF, David VK3RU, John VK3PZ and Damien VK3SOX who assisted in the final few hours of operating and packing up. At 12:00 local time VK3ER/P finished the contest and in just over two hours we had the contest site packed up and were ready for the three hour journey back to Melbourne.

Our final score was: 80 m = 312 points, 40 m = 352 points, 20 m = 16 points, 6 m = 2220 points, 2 m = 4360 points, 70 cm = 2870 points, 23 cm = 1280 points: Total Score = 837 contacts for 11,410 points.

This is our highest score for some time and it reflects the work that has gone into the station over the past 2 years, work that has long been planned but never accomplished. Thanks to all those who came up and gave out numbers to stations in the contest and I must also thank those who took the time to come away for the weekend and operate VK3ER/P

I should have a short video of the weekend by the time this is published. The video should be on my Youtube site at:

<http://www.youtube.com/profile?user=vermontcreekbed>

Cheers, VK3WWW Jack for the VK3ER/P team.

John Moyle 2008 Field Day Expedition Report – VK3XPD/VK3AAK

Alan Devlin VK3XPD

Following on from our recent success in the 8-Hour section of the 2008 VHF-UHF Summer Field Day Contest, Michael Coleman VK3AAK and I decided to tackle the 2008 John Moyle Field Day Contest (JMFD). As usual, the first decision was the choice of a Portable Operating location. We eventually settled on Mt Leura, a 310 metre high landmark that overlooks the rural city of Camperdown, about 185 kilometres west of Melbourne.

As the JMFD weekend of March 15/16 drew near, the weather forecast for VK3 and VK5 was expected to be very hot with high 30s predicted with the likelihood of Regional Fire Bans. I travelled to Port Fairy on the Friday afternoon where our host Russell Lemke VK3ZQB attended to our every need/demand. We also tested most of the Microwave gear in Russell's front yard.

Michael VK3AAK had family

commitments so he decided to drive down on the Saturday morning and we would meet on the Mount. This delayed start also gave Michael the opportunity to knock up a simple Moxon antenna for six metres... a very worthwhile decision for which we would later derive a huge benefit in Contest Points.

Saturday morning to noon in Port Fairy was a very pleasant 24 C. Mt Leura was only an hour away but as I travelled east to Warrnambool and then onto the

Cobden Road towards Camperdown, I could feel the ambient temperature rising as I went further inland. On my arrival at Mt Leura at 1500 hours, there was no shade and the heat was quite oppressive. It was obvious the temperature was in the mid 30s. Michael had arrived a few minutes earlier and was already surveying the area.

After working out our bearings, we parked both cars North/South, rear to rear on the summit to create an ideal East/West Operating area midway between the cars. Our six hour Contest started at around 0515 UTC, (1615 hours EDT) giving us the benefit of making repeat contacts over two of the 3-hour boundaries. Our first points came from a QSO on six metres. More six metre contacts followed quickly and it became evident that Michael's decision to include "something" simple for six metres was of great benefit to our overall Contest Score.

The microwave bands took a little longer to get going and contribute to our points tally. During the set-up, an unexpected north-easterly breeze sprung up and caused a bit of havoc. The 1200 mm dish mounted on its tripod was blown over and the feed support structure was badly bent. Then the six metre antenna went down...and then a little later so did the two metre Yagi.... fortunately with no real damage. These were just teething issues that we all have to expect and endure if we participate in any contest from a portable location.

Finally the dish repairs were completed and several of the microwave transverters were powered up: I was ready but what was the propagation likely to be? Michael in the meantime had been flat out managing 6 m, 2 m, 70 cm and 23 cm bands.

The Mt Gambier team of VK5SR was not able to go to their usual preferred site due to fire ban restrictions, which prevented access to their favoured mountain. Consequently, Colin VK5DK and his team initiated a reduced Contest effort later in the day closer to sunset from Mt Gambier in the township. As usual, the VK3UHF team from Geelong was very active and racking up the points on their many bands. Russell VK3ZQB had decided that he would not go out portable so he operated at home from an east facing balcony with a rather degraded/obstructed outlook.

Ralph VK3WRE from Mt Tassie was

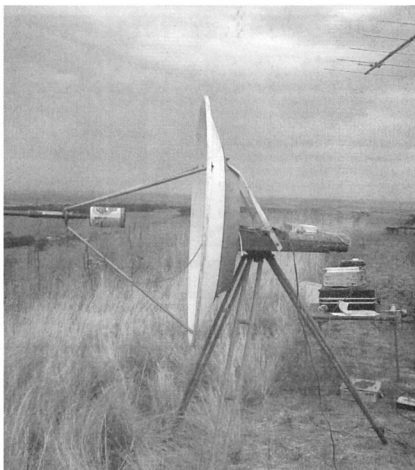


Photo 1: The antenna for 5.7 GHz.

a bit of a late starter or should I say he was for us. The Ballarat group of VK3BML was operating from Flagstaff Hill to the north of us and the VK3ER group was on Mt Cowley. These were the only significant teams with microwave possibilities for us to score contest points.

Over the next six hectic hours, Michael and I repeatedly searched for stations, rotated antennas, swapped transverters and dish feeds and recorded those all-important QSOs in our log sheets. We found the microwave bands were indeed wide open with huge signal reports of 5 + TOO, TOO loud... being common.

Finally at 1220 hours UTC (2320 EDT) we had all our gear packed. We were both well satisfied with our evening and our achievements. Then we headed home with Michael driving back to Melbourne three hours away (now there is dedication to the hobby) and I returned to Port Fairy.

There are obvious improvements that

can be made to our portable station. These relate mainly to our operating techniques and better time management. Our biggest hurdle was actually finding the stations that we could work or rework. This led to a lot of time being wasted searching, not making QSOs and therefore not adding to our contest points score. This was especially the case for the microwave bands where each QSO or series of QSOs over multiple bands to/from one operator usually takes a longer time to complete.

One observation I will add is the apparent lack of growth of microwave stations. Sure there are a couple more new microwave operators appearing but we do not seem to have the same amount of vigorous microwave activity that there was a few years back.

Let us hope we can change this for the future!

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Alan VK3XPD
Michael VK3AAK



Photo 2: Michael VK3AAK working "on phone".



Photo 3: Part of the antenna farm. Michael VK3AAK has built an interesting mounting frame.

The Peel Amateur Radio Group

Gavin Bazukiewicz VK6VKS

The Peel Amateur Radio Group participated in its first John Moyle Memorial Field Day contest on 15-16 March. The station was located on the Pinjarra scarp, some 86 km south of Perth, with an elevation of approximately 250 metres. A special thanks to Alcoa for permission to operate in that area.

Saturday morning was a flurry of activity, with setting up the hired 3.5 kVA generator, and the numerous antenna supports. The antennas for HF were a TET rotatable dipole, and a Werner Wulf vertical. Two metres was covered by a 12 element vertically polarized beam and 70 cm also utilised a vertically polarized beam.

Thanks go to Paul VK6DAT for supplying the gazebo which housed the 2 m/70 cm station, and part of the HF operations, both of which became quite competitive at times.

The callsign for the exercise was VK6ARG. A total of 227 contacts was made: 1 contact on 15 metres, 86 contacts on 20 metres, 28 contacts on 40 metres, 8 contacts on 80 metres, 67 contacts on 2 metres and 37 contacts on 70 cm.

Equipment used was a FT-847, 50 W, for 2 metres, an Alinco DR-435 at 70 W for 70 cm, and for HF a Kenwood TS-570SG, at 100 W. Thanks to all who loaned their equipment.



Photo 1: The Peel Amateur Radio Group
Back L-R: Marty VK6FDX, Rex VK6SN, Maureen, Paul VK6PAG, Milan VK6KTV.
Front L-R: Dot, Michelle VK6FMOZ, Warren VK6MOD, Gavin VK6VKS, John VK6ZN.

Paul VK6DAT, John VK6ZN and myself Gavin VK6VKS remained onsite throughout the night. Rain interrupted proceedings around midnight, but this really had the effect of shutting the station down, and allowing for some well earned rest. Operations recommenced

first thing in the morning to round off the weekend.

Thanks to all who participated in the event and were involved in the set up. A thoroughly enjoyable field day had by all.



Photo 2: Paul VK6PAG, Milan VK6KTV, Warren VK6MOD, and Marty VK6FDX operating the PARG JMMFD station.



Photo 3: One of the PARG antenna support anchors – a little unusual, but effective.

My John Moyle Memorial Field Day 2008 experience

James Fleming VK4TJF

Field day for me is a once a year event where I can use antennas that cannot fit into my yard and use power levels that would normally have the neighbours come knocking at my door.

I belong to the Redcliffe and Districts Radio Club where around 40-50 people attended the 2008 John Moyle Memorial Field Day (JMMFD). We book the field day at Murrenbong Scout Camp near Petrie, Queensland.

This year John VK4YJV brought his work truck, which was equipped with an 18 metre crane, to the site. John fabricated a rotator using two worm drive gear boxes. One had a 10:1 reduction and the other had a 40:1 reduction resulting in an overall 400:1 reduction. A 24 volt DC motor ran on three volts. Andy VK4KY used the EZNEC computer program to design a four element beam on 10 and 15 metres, and a three element beam on 20 metres, all matched with a 1/12 wave transformer. Andy and John then fabricated them for field day. The ten metre beam was put on a German made winch up tower that stood around 10 metres.

We started setting up on the Friday and by night time more than one beverage was consumed as well as erected! I managed to make a rare contact to

Wake Island using my own call sign. Headphones, foot switches and home made voice callers were provided by Andy.

Saturday night was the famous camp roast put on by Peter VK4TGV with roast lamb and vegetables on the menu. The lamb and vegetables were left under red hot coals all day till the meat was

falling off the bones. In the end, a few were gnawing on the bones just like a Neanderthal.

This was my one time of the year (except JOTA) to lie under the stars, feel the warmth and glow of the electron tubes in the amps, make many contacts, and have a belly full of beer and roast lamb.

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Photo 1: The Redcliffe and Districts Radio Club JMMFD 2008 campsite.

The CEPT licence

Bob Whelan G3PJT

Chair, Radio Regulations Working Group, IARU Region

Going on a trip this year? Want to take and use your radio? If you are going to a CEPT country, read this first!

Planning on doing some travelling and want to take your radio? Then a new agreement between ACMA and CEPT will help you do just that – and with minimal paperwork and bureaucratic hassle! And best of all no licence fee!

What is CEPT?

CEPT stands for European Conference of Postal and Telecommunications Administrations.

CEPT has harmonised telecommunications legislation between its member countries and thus made it easy for radio amateurs to get operating permission during visits. The administration of CEPT takes place at the European Radiocommunications Office (ERO) in Denmark.

What's new?

The ACMA and CEPT have come to an agreement which will allow Australian radio amateurs to operate their radios during short visits to over 30 countries.

The CEPT recommendation T/R 61-01 permits the holder of an Advanced class Australian radio amateur licence to operate in over 30 countries without having to obtain a licence from the countries you plan to visit.

This very convenient arrangement is intended for short visits, typically one to three months. And many of us use it all the time on holidays, DXpeditions and business trips. This arrangement covers both CEPT countries and even non-CEPT countries like W, ZL, ZS, VE etc. and now VK.

I have an Advanced licence and I want to take advantage of this, what do I need to do?

In practice you have to:

- Check that your Australian licence shows that it qualifies as a CEPT licence. Licences renewed after Australia has reached agreement with CEPT will show this. You will also be able to obtain a substitute licence from ACMA which will have the CEPT endorsement, though you will have to pay a fee for this.

- Check what national licence class in the country you want to visit is equivalent to your licence.
- Check what are the operating privileges and regulations covering the use of that national licence class in the country to be visited.
- Use the appropriate prefix which has to be appended to your own personal Australian callsign.

The key point is that the operating privileges for the visitor operating under the CEPT Licences are defined by the **COUNTRY BEING VISITED, NOT YOUR OPERATING PRIVILEGES IN AUSTRALIA.**

- Go operate!

So much for the information but how does this work in practice?

Have a look at the tables in either of the CEPT documents (URLs below) and you can see that the equivalent local licence class is listed for each of the countries which have adopted the CEPT licences.

So as an example, having found out that your Australian licence is included in the table in T/R 61-01, Appendix IV and you want to travel to Germany, you turn to the table in Appendix II and look up the entry for Germany which says that German licences 1, 2, and A apply.

Then you go to the DARC website

and look up the operating privileges which apply. Likewise if you plan on coming to the UK then the licence class which applies is the UK Full licence and operating details are available from RSGB and Ofcom websites.

What callsign should I use?

You should use the national prefix and any secondary locator if any, then a forward slash, '/', followed by your home VK callsign. Yes, this is the reverse of what Australia requires under its Class Licence for Overseas Amateurs visiting Australia, but that does not matter.

Appendix II of T/R 61-01 tells you the prefix which you should append to your personal Australian call (VK'x'aaa') when you are in Germany, so your callsign becomes DL/VK'x'aaa' or in the UK M/VK'x'aaa'. Note that special Australian calls or club calls are not valid under CEPT and should not be used.

You can also use the radio of a local amateur under these arrangements.

What documents should I carry with me?

When travelling you need to carry your VK licence with you showing that it is recognised by CEPT and it is a good idea to carry a copy of the local licence too.

Some form of explanation is useful if you have to show your licence etc. to local officials who might not be familiar with these arrangements.

The CEPT Licence

The WIA is very hopeful that the CEPT will finalise the arrangements between it and Australia to allow Australian Advanced licensees to operate in the CEPT countries during visits sometime this May.

Accordingly we have asked Bob Whelan G3PJT to tell us how operating under the CEPT arrangements work.

As this issue goes to the printers, the arrangements to allow VK amateurs to operate in the CEPT countries **have not been finalised**, but immediately we hear that it is clear to operate we will let you know through the WIA website and the WIA broadcasts.

Australian Advanced licensees should not attempt to operate in the CEPT countries under their Australian licence until the agreement with CEPT has been finalised.

When that happens, this will be the implementation of another of the outcomes of the ACMA inquiry into amateur regulations and a major benefit for Australian amateurs.

Some fine print.

So far so good, but these arrangements are always being updated as new countries join the arrangements. So it is important to always get the up to date information from the ERO website.

And of course there is the fine print.

Not all of the countries who implemented the previous versions of T/R 61-01 have implemented the revised and current version. In such cases it is reasonable to assume that the requirement for Morse code for operation below 30 MHz and any other restrictions still stand. ERO have tried to clarify any such restrictions in footnotes to the tables.

Some of the 48 members of CEPT have NOT implemented the CEPT licences. Just because the country is listed as a CEPT country does not mean it has adopted the CEPT licences.

And any country can add extra conditions to the CEPT licences. These conditions will be shown as footnotes to the equivalence table e.g. in T/R 61-01 Appendix II. For example, Estonia requires that a visitor use a local regional prefix.

Special conditions often apply to overseas territories such as those of France. Local permission will often be required in such locations.

And finally CEPT T/R 61-01 bears no relation to the import and export of amateur radio equipment, which is subject only to relevant customs regulations.

But I am going to stay longer

For longer stays, more than 1 to 3 months or more than 90 days, you will need in most cases to advise the Administration in the country where you are staying. You might have to obtain a local licence. In such cases there is another CEPT agreement T/R 61-02 which may be relevant and help you avoid having to take any local examinations if you hold the Advanced qualification and the AOCIP or AOLCP qualifications. While you should certainly take your certificate with you if you intend to stay more than a short visit, it is probably a good idea to have at least a certified copy with you however long you intend to stay.

Certainly, you should look at the ERO website.

ACMA is already issuing Advanced Amateur Operator's Certificate of Proficiency that include a declaration in three languages that the holder of the certificate has successfully passed an amateur radio examination that corresponds to the CEPT recommendation.

URLs of documents

The main ERO page is www.ero.dk

The main access to T/R 61-01 CEPT Radio Amateur Licence is via the document database at:

<http://www.ero.docdb.dk/doks/doccategoryECC.aspx?doccatid=2>

Scroll down the page to the relevant documents or quicker just use your browser to 'search in the page' for '61-01'.

You can then download the text of these agreements or just look on line.

If you click on the 'Implementation' button a new page opens which shows which countries have adopted the agreements and any special conditions if any.

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EMDRC visits FAMPARC.....again!

The second "D-STAR" highly successful and fun morning was held at FAMPARC on Saturday 19 April 2008. In fact, it would be hard to plan and achieve a better morning and it was good to see that there were 22 people attending either with D-STAR equipment or with a keen interest. Even Bill the club president was happy to give his input (hi hi).

Starting things off, the weather was just plain perfect, the coffee was hot and the donuts were fresh and in good supply. The best thing however was the spirit of the meeting and the outcomes with people swapping ideas and getting to know their equipment better. Jeff VK3EUL kindly distributed the latest IC-91 and 92 (and other) ICF "memory" files and also gave a great introduction and demonstration of programming software.

When you see just how much can be

done with these powerful radios you realize that the programming software and cables are a highly recommended addition.

Being new to D-STAR myself, I was surprised to see that he had programmed in repeaters from all around the world and for a few seconds until I realized and remembered the power of the D-STAR system I forgot that you can just select and make a contact to anywhere with a repeater. This is how easy Jeff and others such as VK3UR (sorry to everyone else I have missed out) have made making international contacts. It also demonstrates the close co-operation and the best of the amateur radio spirit in action.

Peter "TQ" a.k.a. Captain D-STAR dropped in on the way past and gave an impromptu talk about the upcoming changes happening with the G2 upgrade (happening on 28th April). Also discussed were some interesting aspects of D-STAR.

Richard VK3TXD

News from...

VK3

Eastern and Mountain District Radio Club goes Digital

On Valentine's Day, Thursday 14th February 2008, love was not the only thing that was in the air. It was Melbourne's ever active Eastern and Mountain District Radio Club that went on air with the first Australian D-STAR net at 8.00 pm that day with VK3DLR transmitting from a portable location. After putting out a call for stations to check in, a few nervous moments of silence followed. Then the first station to check in VK3UR was heard and the rest, as they say, is history. A total of 12 stations checked in on that day, including Peter VK3TQ from Icom and Richard VK3JFK, the resident D-STAR expert. There was great discussion on the settings required to get the D-STAR capable radios to work the repeater. This discussion resulted in the number of stations that checked in. The

News from...

first D-STAR net kept the net controller busy for the next one and a half hours and even after the net was closed, the repeater was active for quite some time. The D-STAR bug has definitely caught on! In recognition of this event and to commemorate this occasion, the EMDRC have presented a certificate to the stations that joined this inaugural net, possibly the first in the World.

As a sign of things to come, since the inaugural net there have been an average of 13 callers each week making it a very successful net indeed. To top this, on Thursday 6th March 2008, DL4FDL from Germany and IR3UQ from Italy joined the ever increasing group. To join in to the net, tune to VK3RWN on 146.9125 every Thursday at 8 pm.

Joe VK3FJBC

EMDRC WES 2008

One of the great things about amateur radio is that it involves people in many different activities. There are field days and the lighthouse weekend and then there are project days and fox-hunting. The list just goes on and on. But once a year, amateurs from far and wide can be seen line up in front of an ATM at a certain suburban shopping centre. In case you are wondering what connection this has to amateur radio, think again. This very important and essential field activity involves the withdrawal of large sums of money for the purpose



There is always someone in the crowd who seeks attention! A view of part of the busy hall.

of purchasing goodies at the annual Eastern and Mountain District Radio Club White Elephant Sale 2008. And this year's WES was strategically slotted in for Sunday 9th March (the Labour Day long weekend). This had the advantage of allowing people to have the next day off to recover from the effects of the WES (and to unpack and assemble their new gear).

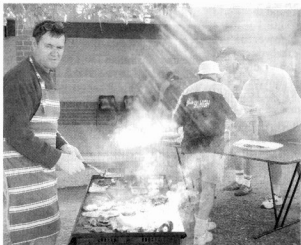
In the weeks preceding the event, the Committee had been busy putting together the list of things to do and arranging volunteers. On the day of the event, it all came together like a well oiled machine. The smell of coffee greeted people as they arrived at the venue a couple of hours before the official start time.

Carl VK3EMF and the very efficient ladies could be seen already hard at work in the kitchen. Jack VK3WWW was spotted doing a (tyre kicking) final inspection of the barbeque and had it going for the morning bacon and egg run at the right time. The traders were busy bringing in their goodies and Antony VK3TAG was kept busy at the registrations desk

for a while. As is always the case in such high profile events, security was tight and the flow of people was closely monitored by the "stronger" and "slightly robust" members of the volunteer group. As the start time drew close, the crowds outside were growing and Jack's bacon and eggs were disappearing fast. The endless cups of free coffee were being gulped down quickly. After all, nobody wanted to be caught with a cup in hand when the doors opened. You have to hand it to these amateurs. They never go radio shopping on an empty stomach!

Ten o'clock struck and with it came the mad rush of people as the doors opened. Before long bargains were snapped up and haggling was the flavour of the day. Yet in the middle of all this, there were some who were just content to sit outside with a coffee and a cigarette and talk about their favourite topic. An exciting moment in the proceedings was the draw of the door prize. An Icom IC-91AD digital handheld was given away to one lucky winner while the rest of the people drooled, gulped and looked rather green with envy. Finally after a lot of cash and gear changed hands, the afternoon eventually ended (as all good things must) and the doors closed to another highly successful WES. A well deserved round of applause to the volunteers and members, traders and participants who made this event a huge success.

Joe VK3FJBC



Jack VK3WWW hard at work at the barbeque, trying to keep up with demand.

EMDRC antenna build day

David Ryan VK3LOZ.

The antenna build day held at the EMDRC East Burwood clubrooms on Saturday 28 July was an outstanding success.

Three club members built their own antennas and a fourth brought his along to be checked. The three who built their own antenna also built their own balun.

Including those who built antennas, there were 26 club members present to observe the proceedings. It was pleasing to see two new members join the club on the day; both learnt of the club activity on their 2 metre radios. One new member heard the activity announced on the Sunday Net and the other from listening to a simplex conversation.

Without doubt the presentation of a technical nature sparked interest in the membership. It was standing room only when the GDO and the antenna tuner came out.

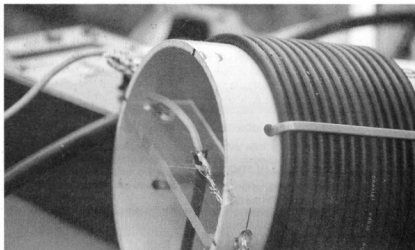
Watch out for the continuation to the antenna builds, when we will include a 40-metre trap into the 80-metre dipole.

Also discussed was the proposal to hold an information day on IRLP, to be held in conjunction with the Saturday BBQ. David VK3DRB has indicated he is willing to instruct on the Day.

The EMDRC extends a warm welcome to all club members and visitors for both days.

Remember: **TALK** about the activity
ON AIR.

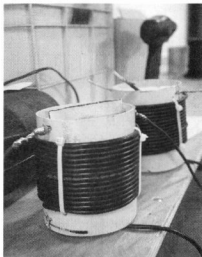
ar



Balun construction



Many hands tuning the antenna rig



Finished baluns



The antenna is up (in front of the amateur at left) but the discussion continues

Amateur Radio Victoria News

Website: www.amateurradio.com.au

Email: arv@amateurradio.com.au

Jim Linton VK3PC

Happenings on VHF and UHF

The 2 m and 70 cm bands are certainly popular, the latter probably more so in the Melbourne area than in many other parts of our big country.

Whenever something unusual happens there is no shortage of radio amateurs to pick it up and discuss it on air.

Recently there were a number of stations on the VK3RMM 70 cm repeater identifying with geographic or location names. Instantly there was concern about these transmissions. Who were they and what was their purpose?

The simple answer is that they were WICEN (Vic) stations providing logistic and support communications for an event as part of a communications training exercise.

A relaxation of the station identification requirements for emergency communications can be found in the revised Radiocommunications Licence Conditions (Amateur Licence) Determination released in February.

The general requirement is for amateur stations to identify at the beginning, end, and at least once every 10 minutes during transmissions. However a network of amateur stations taking part in emergency services operations or related training exercises must be identified at least once every 30 minutes.

Under the new LCD, this identification must be given by one station in such a network. The reason for this is to enable a smooth running of an emergency services operation or training exercise without the need to stop every 10 minutes for a roll call.

WICEN (Vic) has long used abbreviated station call signs that also aids in the running of an emergency network. A little time listening to the traffic of these efficiently run networks should leave no doubts about their legitimacy.

Such was not the case on the 70 cm band recently when obviously non-

amateur transmissions appeared with traffic related to security or crowd control matters.

It turned out that staff at a security company in central Melbourne were equipped with imported Chinese made hand-helds tuned to the amateur 70 cm band. Soon after there was other traffic heard on the band that appeared to be parking attendants at an entertainment centre.

The ACMA acted quickly to take appropriate action and ensure compliance with the Radiocommunications Act.

It was tempting for radio amateurs to engage in on air discussion with these intruders. In doing so they may be in breach of the amateur licence conditions. But importantly it can also frustrate ACMA investigations if the offender does QSY.

In these circumstances restraint is required, listen, observe and report the matter to authorities. An incident last year saw a radio amateur challenging on air what he thought was an intruder or a hoaxer pretending to be an emergency services dispatcher.

However it turned out that someone unknown had maliciously cross-repeated an emergency service channel with a 2-metre band simplex frequency.

Annual General Meeting

Another reminder to members of the AGM to be held at St Michaels Hall Victory Blvd Ashburton on Wednesday 21 May at 8 pm.

Following the AGM an Open Forum will be conducted. Members can avail themselves of this opportunity to discuss any matter with the Council Members.

The annual reports for 2007 were made available to members last month as a download from the Members Only section of the website. Hard copies were posted to those financial members who have not registered their email address,

or request such a copy.

Some highlights include:

The year 2007 had been a busy one for the statewide organisation that faced some challenges but, with a strong active council, is able to make steady progress on most of them.

The Centre Victoria RadioFest at Kyneton had firmly established itself as a 'must see' event for the discerning radio amateur.

JOTA and ILLW are now permanent activities for the organisation.

Our Education Team led by Barry Robinson VK3JBR is playing an important role in helping those entering amateur radio or wishing to upgrade.

The Internet Project Development Officer, Gary Furr VK3KKJ continues an excellent job that plays a major role in membership recruitment and retention.

A great deal of work has been done in restoring a number of repeater sites, resulting in an extraordinarily large amount being spent in 2007.

The new D-STAR repeater, kindly donated by Icom (Australia), will necessitate a very large capital expenditure by Amateur Radio Victoria before it becomes fully operational on Mt Macedon.

We have gratefully received some donations of money and material for this project but we have a long way to go. Thanks and acknowledgement is now given to two donors, Roger de Valle VK3ADE and David Tilson VK3UR. Further donations are welcome and should be addressed to the Secretary, Amateur Radio Victoria, Ross Pittard VK3FCE.

Foundation class

The next weekend training and assessment session for the Foundation Licence will be 17-18 of May. Enrolments close soon. For inquiries or to enrol contact Barry Robinson VK3JBR 0419 808 323 or arv@amateurradio.com.au

Geelong Radio and Electronics Society (GRES)

Rod Green VK3AYQ

Formal meetings for 2008 commenced in late January, and since then our club meetings have been well attended. We were fortunate to have Peter Willmott VK3TQ, who is sales manager for Icom, as a guest speaker. Peter gave a PowerPoint presentation on the new digital mode of communication "D-STAR". Following the presentation, Peter answered questions from the floor and also gave a practical demonstration. Peter's talk was well received and gave us all an insight as to what we can expect in the future. Of particular significance is the fact that this mode of communication lends itself to experimentation, which means that we as amateurs still have the opportunity to make a contribution to the development of either the hardware or the software.

Pip VK3YME gave us instruction in the use of the CAD program "Eagle", which is a software package that allows the user to draw a circuit diagram and then produce a printed circuit board

to suit. This program is quite powerful and as such it took two evenings for Pip to explain the basic operation of the program. The second evening was a hands on approach with members making use of our computer laboratory to gain practical experience using the software.

In February we had our annual visit with the Ballarat Amateur Radio Group (BARG). This time it was our turn to go to Ballarat and it is a visit that our members look forward to. As usual we were well looked after by our hosts. We were given an outline of their latest club project that will allow their members to access the club station from a remote location via the internet. This is a most ambitious project and the BARG are to be commended in their ability to bring a project of this complexity to completion. The operating console housing the equipment was of particular interest to Arno VK3YAP, who is in the process of designing and building a new operating

console for our club rooms.

We have two construction projects we hope to build within the next three months. The first is a PIC based tone board to allow access to CTCSS controlled repeaters. This will be particularly useful to members who own older FM transceivers that do not have this facility built in. The second is a small portable Yagi antenna for 70 cm, and is a follow up project to the 2 m Yagi that we constructed last year. Both of these projects are in the final stages of the design and we should start on them later in the year.

Visitors to Geelong are invited to attend our meetings which are held every Thursday evening at 8 pm local time. Or you may wish to call in on a Wednesday morning between 9.30 am and lunch time for a cup of coffee with the Wednesday group. Our rooms are located at 237A High St. Belmont.

VK2

Tim Mills VK2ZTM

cl - vk2wi@ozemail.com.au

Clubs

The Mid South Coast ARC, which meets quarterly, now has a new venue and a change of date. The May meeting will be held on the second Saturday at the Country Women's Association (CWA) Hall located at 55 Wason St. Milton. <http://www.msarc.org>

The Oxley Region ARC wish to remind amateurs from throughout VK2 and beyond that it is only a month until the annual Queen's Birthday weekend Field Day. It will be held over Saturday the 7th and Sunday the 8th of June at the usual venue, the Sea Scout Hall in Buller St. Port Macquarie. The Oxley Club members have settled in well to their new meeting venue at the Port City Bowling Club, Owen St. Port Macquarie where they hold the monthly meeting at 2 pm on the first Saturday of the month. There are informal meetings on the second and fourth Friday evenings.

The Urunga Convention just celebrated its 60th Birthday gathering over Easter in the village of Urunga (mid north coast) in the same community hall as the first get together in 1948. Over 70 signed in during the two days for a round of fox hunts, again hotly contested by the VK3 team. Planning is already under way for the 60th anniversary event next Easter, with, it is understood, a new management committee.

Waverley ARS has its annual auction next month on Saturday morning the 21st June. The club rooms are part of the Scout hall in Vickery Ave Rose Bay which is behind the RSL Club on New South Head Rd. Rose Bay, in the eastern suburbs of Sydney.

Taree and District ARC held their AGM in early March. The committee positions determined were President Ross Barlin VK2DVZ, VP John Farley VK2KHZ, Treasurer John Van Denderen VK2SWR, Secretary Mark Swannack

VK2AMS, Public Officer Arthur Archer VK2PE, Net Controller Ken Varley VK2KYO, Publicity Officer Terry Davies VK2KDK and Webmaster Glen Steep VK2YOJ. The repeater committee is VK2s DVZ, AMS, KHZ and YOJ. The Club committee is VK2s DVZ, AMS, PE, KHZ, KYO and MSX. They meet at Taree TAFE on the first Tuesday evening of the month.

There is a net on Monday at 7.30 pm on the two metre area repeaters.

Blue Mountains ARC will be conducting their annual field day towards the end of winter - date yet to be advised. They meet monthly on the first Friday evening in the scout hall at Reading St. Glenbrook, and this is also the location for the field day.

Illawarra ARS is also in the celebrations with its 60th anniversary in June. They have a special event callign V12AMW60 for use during June. To celebrate the formation date, a dinner is being held

News from...

on 10th June which was more than 80% booked by the end of March. The club is currently conducting workshops building a direction finding antenna, a radio direction finding unit, a CTCSS encoder/decoder, with many more projects being considered. They wish to remind users that a 123 Hz CTCSS sub tone is required to access VK2RMP 438.725 MHz. The Illawarra ARS has a weekly news bulletin on Tuesday evening, other than the meeting night, at 7.30 pm on their Coast Link system.

Liverpool and District ARC and Fishers Ghost ARC recently joined forces to conduct exams. They cover the south west of Sydney. vk2tsr@bigpond.com or vk2zwwk@wia.org.au

St. George ARS meet on the first Wednesday evening at the 1st Kyle Bay scout hall, Donnelly Park, Kyle Parade, Connells Point. Club meetings are provided for the southern part of Sydney. The society also sponsors several repeaters including the western Blue Mountains Mt. Bindo VK2RDX 6650. It has recently had an antenna and feedline overhaul, as well as work on the repeater. This system provides a link over the sandstone wall between the coast and the Central West. It is also a relay point for VK2WI news.

I am looking for VK2 news to the west of the sandstone wall. Some news

from Orange recently was all that has been heard for a while. Would club committees, publicity officers and individual amateurs care to drop a note to the VK2WI news bulletins via the email address arnews@tpg.com.au The VK2WI bulletins require new and varied items. I use a lot of the news items to VK2WI as the source for these notes.

The printed word in publications such as this magazine is the only way that a lot of the happenings and history are ever recorded. Just looking back in the older publications refreshes the memories and often shows it has all been done before. Thanks in advance.

ARNSW

Details next month about the AGM and new committee for ARNSW. The AGM occurred a couple of days after this month's deadline.

The last Sunday of this month (25th) is the next Trash and Treasure at the VK2WI Dural property. This will be in the morning, and the Home Brew and Experimenters Group in the afternoon. This is also the weekend of the WIA AGM in Broken Hill.

A reminder that the only postal address for ARNSW is now P.O. Box 6044, Dural Delivery centre, NSW, 2158. Telephone contact is 02 9651 1490 into a message bank.

VK2WI

40 metres in the evening is back to sharing with Radio New Zealand on a near-by channel. The schedule shows they have an AM transmission there until September. 80 metres on 3595 kHz continues to be the main wide area coverage for the evening transmission.

One of the broadcast team, Jeff VK2BYY, is still finding time to write books. His latest will be out this month with the title *The Mind of the Dolphins*. The other books written by Jeff were *Barefoot Times* in 2004 and *Call of the Delphinidae* in 2006.

In the VK2WI upgrade it is planned to restore the beacons on 2 metres and 70 cm. At the moment, some 2 metre band indications are provided by the 5A TV from Newcastle but this will go in due course. What has been noted by the technical team is that there is no direct feedback from those who use the services of beacons. If there is an interest in having these services restored to the Sydney region how about a note or email to show there is interest. Send it to arnews@tpg.com.au attention Technical Committee or write to P.O. Box 6044 Dural Delivery Centre NSW 2158.

73 – Tim VK2ZTM.

Twin Cities Radio And Electronics Club Inc.

The Riverina Field Day

Sunday 31st August 2008

Held at Murray High School in the Assembly Hall

Corner of Kaitlers Road and Kemp Street Lavington

Opening 10 am - Shutdown 2 pm

Food will be supplied by caterers on site at reasonable prices

Tea and coffee will be free to everyone

There are a number of reasonable motels located nearby and in Albury/Wodonga

On Saturday evening some club members will be having an informal evening meal at the Commercial Club Bistro, come along and enjoy a relaxed evening.

Contacts:

Tony VK2ADQ 02 6040 0114 brabazon@aapt.net.au

Peter VK2CIM 02 6040 3210 vk2cim@wia.org.au

Stafford VK2AST 02 6040 6987 staffordsimpson@westnet.com.au

Waverley Amateur Radio Society

Annual Club Auction

The club will be holding its 2008 auction on Saturday, June 21st, at the clubhouse in Vickery Avenue, Rose Bay, Sydney.

Gates open 8:30 and the sale starts at 10:30.

Goods consist of useful ham radio, computer and electronic gear and it is open to all wishing to buy or sell.

No catalogue is produced, but details of some of the items to be sold will be posted on the web site before the sale.

Full details are available on the club's web site at www.vk2bv.org or by phone from Simon VK2UA on 02 9328 7141.

Summerland Amateur Radio Club Slim Jim building day

29 March 2008

SARC thought that a simple 2 m antenna would make it easier for new amateurs to get on air cheaply.

It was decided to hold an antenna day and Duncan Raymont VK2DLR volunteered to host it. Duncan had experimented with variations in our usual ubiquitous Slim Jim design. His version is easier to make and to adjust, and works just as well.

Nine people enjoyed the antenna construction day.

Many aerials of Duncan's design were built and tested.

Contrary to theory it was found the solid ribbon worked better than the slotted type. Good 300 ohm TV ribbon is now very difficult to obtain: it is all too light and cheap.

A good and practical learning and building day was enjoyed. Particularly pleasing was the success of the antennas made by our two youngest members, Aaron Smith VK2FUNN and Kendall Smith VK2FISH.

Construction and soldering techniques were learned by the younger members.

Thanks Duncan for your effort and

instruction. Duncan's design for the antenna is included on page 34.

WIA Director, Robert Broomhead, VK3KRB, visited us. Thanks Rob for

calling and sharing your info with us. All enjoyed a BBQ lunch as part of the day.

It is planned to hold a HF Antenna day on July 27 at the clubrooms.

John Alcorn VK2JWA



Duncan VK3DLR showing young Aaron VK2FUNN and Kendall VK2FISH how to attach a tuning stub with dad Bruce VK2KAP watching on.

Oxley Region Amateur Radio Club

33rd Field Day

7th and 8th June, 2008

Hall open Saturday from 8.00 am for set-up
Sunday, 8.00 am until 4.00 pm

- *Trader tables* • *Fox hunts*
- *Trash & Treasure*
- *General interest displays*

Entry \$8 per person

Coffee, tea and biscuits supplied

Steak and sausage sandwiches available

Sea Scout Hall, Buller St., Port Macquarie

Inquiries: Jim Neil, Field Day Coordinator
(02) 6581 2481 - jim.neil@gmail.com



Duncan VK3DLR passes on useful advice to a Summerland member

A pocket sized 2 m Slim Jim antenna – VK2DLR style

Duncan Raymont VK2DLR

Ever been somewhere with your 2 m hand held and wished that you could pull a better antenna out of your pocket? Nothing flash, just something that had more gain than the rubber ducky antenna?

Ground plane independent? Includes a short length of coax so that the antenna is where the signal is best and the hand held where it's easy to operate? Works on 70 cm also? You need a Slim Jim!

This version is designed for the long end of the 2 m band and can be tuned by trimming.

You will need about 1.5 m of 300 ohm solid TV ribbon (The slotted type has a different velocity factor and will not work with these dimensions) and a length of RG58 coax terminated with

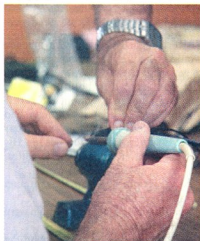
a connector to suit your transceiver. I recommend 1.5 m of coax for indoor use and up to 5 m of outdoor use.

Solder, insulation tape, and about 250 mm of fishing line to make a hanging loop finish things off.

Make up the lengths of twin lead as shown below. The 30 mm and 390 mm dimensions are critical as is connecting the coax outer to the notched side of the long length. The top of the 1390 mm section is left open for trimming and the 30 mm stub is taped against the coax contrary to theory.

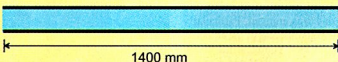
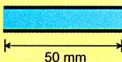
Step 1: Cut twin lead to the lengths shown. Slotted twin lead does not work with these dimensions.

Step 2: Strip insulation back 10 mm

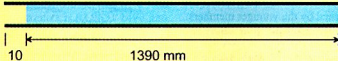
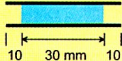


Soldering the stub to the half wave radiator

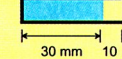
Step 1



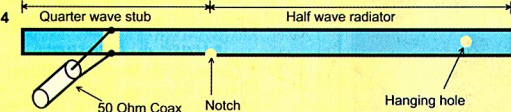
Step 2



Step 3



Step 4



Drawn by VK3KAI. Not to scale.

Figure 1: Construction steps for the Slim Jim. See text for details

News from...

as shown. The 30 mm length is critical.

Step 3: Twist and solder the conductors at one end of the short length to form a short. Cut a notch 390 mm from the exposed conductors on one side of the long length. The 390 mm length to the bottom of the notch is critical. Do not short the top of the 1390 mm length.

Step 4: Twist and solder the 30 mm, 1390 mm lengths and the coax together as shown. Note that connecting the outer to the notched side of the 1390 mm length is critical.

Step 5: Tape the joint securely with the 30 mm length against the coax (contrary to theory). Add the fishing line hanging loop. Test and trim the top (a couple of mm at a time) to move the resonant frequency if necessary and the bottom of the

notch (very carefully - one mm at a time) to change the impedance match. The antenna should also work reasonably well on the third harmonic in the 70 cm band.

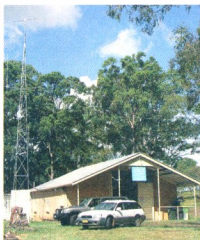
Leave it as is for portable use or slip it inside a length of plastic conduit with a cap on the end for a self supporting permanent installation.



Duncan VK3DLR showing how to terminate the feedline



The Summerland Radio Club Shack



The Summerland Radio Clubrooms (exterior building shot)

Australian made ANTENNAS

Setting a new standard

COM-AN-TENA

(formerly a J and J coman)

115 John Street

GLENROY 3046

NEW 10-15-20 vertical antenna	\$225
2 ele delta loop 10/11 metre	\$275
40-80 metre vertical NEW	\$330
10/11 beams comp opt 5 ele	\$399
10/11 5/8 vert 4 rad 1/4 wave	\$224
Tri band HB 35 C 10/15/20 m	\$844
NEW 3ele 20 m Confined space Antenna Max. Width 7 m wt 11 kg gain 7dBd	\$425
log periodic 9 ele 13 30 8.4 m boom	\$1152
NEW 160 m Vertical SUBURBAN	\$355
M B Vert auto switch 10/80 m	\$345
NEW 2 ele 40 m width 13.4 gain 5.2 dBd wt 27 kg boom 6.1 mtrs	\$574
6 m 5 ele compr opt beam	\$309
Top loaded 160 m vert	\$474
10 ele high gain 2 m 3.9 m boom	\$180
17 ele high gain 70 cm 3 m boom	\$152
NEW 80 m lin loaded height 15 metres Drives as 1/4 wave antenna	\$246

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VK5

Adelaide Hills Amateur Radio Society

Twenty-Five Years Celebrations

This year marks 25 years since the first meeting of AHARS. The very first meeting was in February 1983. The occasion was to be celebrated on the third Thursday of April 2008 with a presentation of photos and minutes

of the early meetings and some stories from some of those early members, and a general coverage of the following 25 years.

Plans include a talk about some of the circuits in use 25 years ago and a display of representative equipment. The event was advertised on the local VK5 broadcast, so there should have

been a good gathering of members and visitors. I plan to report later on details of what should have been a very interesting meeting.

The last meeting was a member's Buy and Sell at which one person's junk became someone else's treasure. With the wide range of interests of our members, there is always a good selection available on these regular members' only nights.

Unfortunately, because of the extreme temperatures experienced in Adelaide for the fortnight surrounding the John Moyle Memorial Field Day, the club's participation in this event was cancelled.

It was not reasonable to subject operators to temperatures of 40+ when it was an activity in which we choose to participate. If you missed hearing VK5BAR this year, this is why.

Instead, a number of the people who would have been at Swan Reach for the weekend operated as home stations. Special mention should be made of John VK5EMI, who operated for the whole 24 hours, as he would have done in the field.

Christine Taylor VK5CTY

South East Radio Group

2008 Convention

Queen's Birthday weekend in June (7 & 8)

- Homebrew contest, with great prizes
- Commercial displays
- Pre-loved radios and parts
- Australian Fox Hunting Championship
- Sunday night after Convention BBQ

What a great weekend to come to Mount Gambier.

See you at the Margaret Street Scout Hall (behind the Police Station).

For more information log onto our web site <http://serg.mountgambier.org/> and follow the links to the convention pages.

If you do not have internet or you wish to book a table contact

Wayne VK5ZX on (08) 8725 4335 or 0407 718 908

VK7

Justin Giles-Clark VK7TW

Email: vk7tw@wia.org.au Regional Web Site: reast.asn.au

"Meet The Voice" BBQ at Ross

On April 6, the weather was fine and sunny and with the historic Ross Bridge in the background the "Meet The Voice" BBQ was a wonderful success thanks to the Sewing Circle Net. The estimate was about 100 people attending, including family members and many K9s!

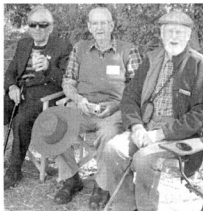
The group heard from Steve VK3JY about how the island of Simbo was using the funds that the Sewing Circle donated to the tsunami ravaged island. Then a panel discussion got underway on the "future of amateur radio". It was a thought provoking discussion.

Thanks to TTS Systems for the

donation of the raffle prize which was won by Dick VK7DIK from Rosebery. It was great to see David VK3JKY and Clairen VK3KMB from TTS Systems make their way down to Ross for the weekend. The new and very impressive Sewing Circle award was presented to its current holder Jerry VK7EE. It will all be happening again next year, so stay tuned for details.

Northern Tasmania Amateur Radio Club

March 12 was the BBQ meeting at Lilydale Falls and by all accounts it was a great night with everyone enjoying themselves and Jason VK7ZJA



249 years of amateur radio experience at the BBQ! L to R: John VK7JK, Baden VK7BRY and Frank VK7CK

sneaking some incriminating pictures! Bill VK7MX was looking for a pre-scaler chip and placed a wanted notice on the VK7 Regional News broadcast and some weeks later was contacted from the United Kingdom by another amateur who had a substantial quantity of just the ICs Bill needed. Some emails and money transfer via son who was studying in the UK and Bill had secured a quantity of the required IC. The power of the Regional Broadcast is remarkable sometimes! IRLP Node 6700 is back online on repeater VK7RAA. Thanks to all involved.

WICEN Tasmania (South)

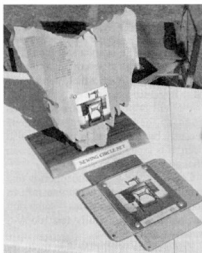
March 29 saw safety checkpoints manned for the Southern Tasmanian Endurance Riders around the Huon Valley. It started and finished in Woodstock and looped around Kaooota then down to Cygnet across Silver Hill and back to Woodstock. This posed some interesting radio coverage issues.

Congratulation to Andrew VK7HAW who was on the University of Tasmania Dean's Roll of Excellence for Bachelor of Science and Bachelor of Engineering. Andrew is a harmonic of Brian VK7BW.

The International Lighthouse/Lightship Weekend on the 16-17 August 2008 will see WICEN running VK7WCN from the Cape Bruny lighthouse.

Radio and Electronics Association of Southern Tasmania

REAST's new committee member is Thomas VK7NML who replaces John VK7HJS who retired due to ill health. The transmitter on repeater VK7RAD on 146.700 MHz has had a complete overhaul along with the addition of a 141.3 Hz tone on the six metre receiver. Congratulations to our new Foundation Licensees who now have their call signs: Anthony VK7FTCL, Sam VK7FSTL and Frank VK7FINF. We look forward to hearing you on air. On Wednesday night April 2, Southern and Northern Tasmania experienced hurricane force winds up to 176 km/h. The VK7RAD mast bent after two guys broke and the six and two metre antennas on the main tower were ripped off. Thanks to Dave VK7DM, Barry VK7TBM and Steve VK7XOR who did the repair work. A number of other amateurs also had their antennas forcibly modified during



The "Sewing Machine" Award (New and Old) presented to the most loquacious members of the VK7 Sewing Circle Net each year.

the storm. There are some pictures on the REAST website. Ironically the illustrated presentation we had earlier in the night was from Mal Riley from the Bureau of Meteorology about the technology behind forecasting and its history. This was a great talk, thanks Mal. The presentation was recorded for a future ATV night.

ar



The group photo of most of the attendees at the VK7 "Meet the Voice" BBQ at Ross - 6 April 2008.

John Alan Moss VK7FAAE

John passed away on Sunday 6th April. John was father to Danny VK7HDM, father-in-law to Denise VK7FDKM and grandfather to Sam VK7FSAM. John came from Parattah where he played trains all his life with Tasrail. Upon retiring from Tasrail, he became caretaker at the Orford Caravan Park until that was closed down. John then moved to Bridgewater to be close to his

family. John was married for 50 years and had seven sons and one daughter - I guess we can see who got spoilt just a little bit. There was mention at the funeral about his having helped Danny with Communications for the Subaru Safari and his help with the communications during the fires for Tasmania Fire Service as part of the WICEN team.

There was also a tribute from Danny and Denise about obtaining his amateur licence which he thought was a waste of time as he would not pass it.

The boot was on the other foot when he did the exam and got his "F" call. There were about 80 people at the service which was quite moving.

submitted by Gavin VK7HGO

ALARA

Christine Taylor VK5CTY

Annual General Meeting

Please be on-air on the first Monday in May, the 5th. Make our AGM as busy as it usually is. The agenda and the list of nominees for the different positions are all in the Newsletter, which you should have by now.

We will hope conditions will be as good as they have been sometimes recently, but not as bad as they have also been. It is amazing how everything can change from week to week.

Certainly the bad atmospherics one evening brought the welcome rain to some of the southern states – some rain but not much. Hopefully this too will improve soon.

The weather is still the first topic for discussion each Monday, and will no doubt get a mention on the AGM night.

Did you participate in any of the recent YL contests?

If so, have you submitted your logs? We are so far away from Canada and the US that if we make any contacts in any of their contests they are extremely pleased to hear about it. Recently there have been several contests, a YLRL one, the CLARA one on a Wednesday and a Saturday, and several Special Event stations in the UK, such as the one mentioned in last month's ALARA column.

Then, over the first full weekend in April we had the Thelma Souper Memorial Contest, on 80 metres over two evenings. This is a little easier for us to participate in because of the closeness

of New Zealand to us, so maybe this was the one that gave you a log.

There was a little confusion about the time of this Contest because it became involved in the changing time from Daylight Saving to Standard time. It was a bit of a shame but contacts were made by those that were around within the two hours each night.

Please put your logs in ASAP. It really is important.

An extra reminder for the CLARA Challenge

This event was extended so more contacts could be made, so you may have forgotten it. This list also must be submitted for you to get the special certificate. After this month it will be too late.

The VK3 girls have to be very strong minded

In March the VK3 girls had two gatherings. The first was a two-part day. They enjoyed a barbecue at the QTH of Pam VK3NK followed by a film show at the QTH of Jenny VK5ANW/3.

It was rather cold, as their clothes show but lots of fun, nevertheless. After the long run of extremely hot weather, it was a pleasure to feel chilly. The fire in the newly refurbished fire-pit at Pam's QTH was doubly welcome, you can be sure.

A little later in March the VK3 girls went to a "Death by Chocolate" restaurant. From the picture we can see what they had to resist (as best they could!).

Recently VK3 has been very busy with luncheons, morning teas and participation in Hamfests.

It is great to see so much enthusiasm.

Plans for Tasmania

A number of people, some with caravans, are travelling to Ulverstone on Wednesday night 10th September. Unfortunately as most of the travellers are non-full fare paying, we have not been able to obtain a special discount, however it could be an early start to the ALARAMEET for us.

If you are hoping to come to Ulverstone but have not yet let Susan VK7LUV know, please do not delay any longer. She does need to know so she can make firm bookings for all the activities.

The application forms have been in the Newsletter and on the website for some time, so please make sure Susan knows of your plans.

So far there are approximately 80 attendees, so it sounds as if it will be most exciting. 80 is a good number and one that can be managed.

There is no question that an ALARAMEET is a special occasion. It gives us an opportunity to put faces to names and to store up memories for the future.

Quite a number of people going to Ulverstone intend to stay on to see something of Tasmania while they are there, so we will probably meet up again at various places afterwards, as we have done several times before after ALARAMEETS. More memories are created this way.

Hope to see you there.

ar



The gathering at the VK3 March luncheon. Standing left to right: Marg Loft (new member), Michele VK3FEAT, with VK3 MILLY THE DOG, Pam VK3NK, Elaine VK3EQY, Jean VK3FJYL. Sitting left to right: Micheline VK3FMGE, Margaret VK3FMAB, Jenny VK5ANW, Susan VK3FXXX. Photo by Jean Fisher VK3FJYL.



Death by Chocolate. Left to Right: Jean VK3FJYL, Pat VK3OZ, Naree (Alara member), Micheline VK3FMGE, Margaret VK3FMAB, Barbara VK3AGU, Jo (not yet a ham). Photo by Jean Fisher VK3FJYL.

Gridsquare standings at 28 March 2008

144 MHz

Terrestrial

VK2FLR	Mike	113
VK3NX	Charlie	106
VK2KU	Guy	102
VK3KAJ	Peter	85
VK3HZ	David	80
VK2ZAB	Gordon	78
VK2DZV	Ross	72
VK3PY	Chas	71
VK2KU	Guy	69
VK3CY	Des	68
VK2TK	John	62
VK3EK	Rob	62
VK7MO	Rex	62
VK3QM	David	61
VK2EI	Neil	59
VK3BM	Barry	57
VK5AKK	Phil	56
VK3BDL	Mike	54
VK3KAJ	Peter	51
VK3ZLS	Les	51
VK3WRE	Ralph	50
VK2ZT	Steve	48
VK2KU	Guy	47
VK3CAT	Tony	46
VK3VG	Trevor	46
VK5BC	Brian	46
VK4TLZ	Glenn	45
VK7MO	Rex	45
VK4CDI	Phil	44
VK7MO	Rex	42
VK4CDI	Phil	41
VK5BC/p	Brian	41
VK3II	Jim	39
VK3II	Jim	38
VK3KAJ	Peter	36
VK2TK	John	35
VK4KZR	Rod	35
VK2KOL	Colin	34
VK3ZUX	Denis	33
VK6HK	Don	33
VK2AMS	Mark	32
VK3DMW	Ken	32
VK3ZYC	Jim	31
VK2TG	Bob	30
VK3VHF	Rhett	29
VK4TJ	John	29
VK2RRR	Leigh	28
VK3CJ	Chris	28
VK2EAH	Andy	27
VK2TK	John	27
VK1WJ	Waldis	26
VK3ACC	Gordon	26
VK5ACY	Bill	26
VK3BBB	Brian	25
ZL3TY	Bob	24
VK3TLW	Mark	23
VK3YB	Phil	23
VK4EME	Alan	23
VK1WJ	Waldis	22
VK3BG	Ed	22
VK3HV	George	21
VK3II	Jim	21
VK6KZ	Wally	20
VK4EME	Alan	19
VK3AL	Alan	18
VK4CDI	Phil	18
VK3UOX	Geoff	17
VK2EAH	Andy	16
VK3ECH	Rob	16
VK6KZ/p	Wally	16
VK3ZYC	Jim	14
VK3VHF	Rhett	12
VK4EME	Alan	12
VK2EAH	Andy	11

VK2EI	Neil	11
VK2KOL	Colin	9
VK6DXI	Mirek	6
VK6HK	Don	6
VK1WJ	Waldis	5
VK1WJ	Waldis	5
VK4AIG	Denis	5
VK2ZT	Steve	4
VK4JAZ	Grant	3
VK3QM	David	1

144 MHz EME

VK2KU	Guy	275
ZL3TY	Bob	264
VK2KU	Guy	263
VK3AXH	Ian	185
VK7MO	Rex	154
VK4CDI	Phil	136
VK2FLR	Mike	120
VK3CY	Des	70
VK2AWD	Dave	52
VK2KU	Guy	39
VK2RRR	Leigh	30
VK2ZT	Steve	26
VK3VHF	Rhett	20
VK3HZ	David	19
VK3II	Jim	10
VK3NX	Charlie	5
VK4EME	Alan	4
VK2DVZ	Ross	2
VK3AXH	Ian	2
VK3AXH	Ian	1

432 MHz

Terrestrial

VK2ZAB	Gordon	57
VK3NX	Charlie	50
VK3PY	Chas	50
VK3QM	David	48
VK3ZLS	Les	40
VK2KU	Guy	38
VK3HZ	David	37
VK2KU	Guy	34
VK3BM	Barry	34
VK3EK	Rob	34
VK2DVZ	Ross	32
VK3CY	Des	32
VK3BDL	Mike	30
VK3KAJ	Peter	30
VK3WRE	Ralph	28
VK5BC	Brian	21
VK3VG	Trevor	20
VK7MO	Rex	20
VK3UOX	Geoff	19
VK2TK	John	18
VK7MO	Rex	18
VK2TK	John	17
VK2ZT	Steve	17
VK3CAT	Tony	16
VK3BG	Ed	15
VK3TLW	Mark	15
VK3ZUX	Denis	15
VK5BC/p	Brian	15
VK4KZR	Rod	14
VK4CDI	Phil	13
VK4CDI	Phil	13
VK4TLZ	Glenn	13
VK6KZ	Wally	13
VK2KOL	Colin	12
VK2KRR	Leigh	11
VK2EI	Neil	10
VK2TG	Bob	10
VK3AL	Alan	10
VK3YB	Phil	10
VK2AMS	Mark	9
VK3BBB	Brian	9

VK3VHF	Rhett	9
VK3CJ	Chris	8
VK4TJ	John	8
VK6KZ/p	Wally	8
VK7MO	Rex	7
VK2FLR	Mike	6
VK3ECH	Rob	6
VK4EME	Alan	6
VK6DXI	Mirek	6
VK2KU	Guy	5
VK3HV	George	5
VK1WJ	Waldis	4
VK3DMW	Ken	4
VK3KAJ	Peter	4
VK3PY	Chas	4
VK3QM	David	4
VK3ZYC	Jim	4
VK4CDI	Phil	4
VK3VHF	Rhett	3
VK4AIG	Denis	3
VK4JAZ	Grant	3
VK2EAH	Andy	1
VK2KOL	Colin	1
VK2TK	John	1

432 MHz EME

VK4KAZ	Allan	14
VK4CDI	Phil	10
VK7MO	Rex	10
VK7MO	Rex	9
VK2SN	Sean	6
VK3NX	Charlie	5
VK3HZ	David	5
VK2RRR	Leigh	1
VK2ZT	Steve	1
VK3AXH	Ian	1
VK3VHF	Rhett	1
VK5BC	Brian	1

1296 MHz

Terrestrial

VK3PY	Chas	39
VK3QM	David	39
VK3NX	Charlie	37
VK2ZAB	Gordon	29
VK3ZLS	Les	26
VK2KU	Guy	25
VK2KU	Guy	22
VK3EK	Rob	20
VK3KAJ	Peter	20
VK2DVZ	Ross	19
VK3KAJ	Peter	19
VK3KWA	John	19
VK3BDL	Mike	17
VK3WRE	Ralph	17
VK3BM	Barry	16
VK3HZ	David	16
VK3VG	Trevor	12
VK3BG	Ed	11
VK7MO	Rex	11
VK2TK	John	10
VK3UDX	Geoff	10
VK4KZR	Rod	10
VK2ZT	Steve	8
VK3TLW	Mark	8
VK3AL	Alan	7
VK4TLZ	Glenn	6
VK3ECH	Rob	5
VK3HV	George	5
VK3VHF	Rhett	5
VK3ZUX	Denis	5
VK3ZYC	Jim	5
VK4TJ	John	5
VK6KZ/p	Wally	5
VK2RRR	Leigh	4
VK3BVP	Shane	4
VK3YB	Phil	4

VK3ZYC	Jim	4
VK4CDI	Phil	4
VK6KZ	Wally	4
VK2KU	Guy	3
VK3BBB	Brian	3
VK4CDI	Phil	3
VK4EME	Alan	3
VK5BC	Brian	3
VK6DXI	Mirek	3
VK7MO	Rex	3
VK2FLR	Mike	2
VK3CJ	Chris	2
VK3CY	Des	2
VK3DMW	Ken	2
VK3KAJ	Peter	2
VK3QM	David	2
VK4ANG	Denis	2
VK2AMS	Mark	1
VK3ZYC	Jim	1
VK4CDI	Phil	1
VK5BC/p	Brian	1

1296 MHz EME

VK7MO	Rex	27
VK7MO	Rex	24

2.4 GHz

Terrestrial

VK3PY	Chas	15
VK3QM	David	15
VK3NX	Charlie	14
VK3WRE	Ralph	10
VK3KAJ	Peter	7
VK3EK	Rob	5
VK3HZ	David	5
VK3HV	George	4
VK6KZ	Wally	4
VK3BM	Barry	3
VK3KAJ	Peter	2
VK3VHF	Rhett	2
VK4KZR	Rod	2
VK2DVZ	Ross	1
VK3BG	Ed	1
VK3TLW	Mark	1
VK3ZUX	Denis	1
VK4TLZ	Glenn	1

2.4 GHz EME

VK3NX	Charlie	17
VK7MO	Rex	9
VK7MO	Rex	7

3.4 GHz

Terrestrial

VK3NX	Charlie	11
VK3QM	David	9
VK3WRE	Ralph	7
VK3KAJ	Peter	6
VK3HV	George	4
VK6KZ	Wally	4
VK3EK	Rob	3

3.4 GHz EME

VK3NX	Charlie	5
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5.7 GHz

Terrestrial

VK3NX	Charlie	12
VK3WRE	Ralph	9
VK3QM	David	8
VK3KAJ	Peter	7
VK6KZ	Wally	4
VK3BM	Barry	2
VK3EK	Rob	2
VK3HV	George	2
VK3KAJ	Peter	2
VK6BHT	Neil	2
VK3ZUX	Denis	1

5.7 GHz EME

VK3NX	Charlie	11
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10 GHz

Terrestrial

VK3NX	Charlie	11
VK3QM	David	11
VK3KAJ	Peter	9
VK3PY	Chas	9
VK3WRE	Ralph	9
VK6BHT	Neil	9
VK3EK	Rob	5
VK6KZ	Wally	5
VK3HV	George	4
VK3HZ	David	4
VK3TLW	Mark	3
VK3ZYC	Jim	3
VK5ACY	Bill	3
VK2EI	Neil	2
VK3BM	Barry	2
VK3DMW	Ken	2
VK3ZUX	Denis	2
VK7MO	Rex	2
VK3BG	Ed	1
VK4KZR	Rod	1
VK4TLZ	Glenn	1

10 GHz EME

VK3NX	Charlie	11
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24 GHz

VK6BHT	Neil	3
VK2EI	Neil	2
VK3NX	Charlie	2
VK6KZ	Wally	2

474 THz

VK3CJ	Chris	3
VK3HZ	David	2
VK7MO	Rex	2
VK7MO	Rex	2
VK3WRE	Justin	2
VK7HAH	Ben	1
VK7TW	Justin	1

Additions, updates and requests for the guidelines to Guy VK2KU.

The guidelines (and the latest League Table) are also available on the VK VHF DX Site at www.vhfdx.radiocorner.net - click on Gridsquares.

Next update of this table will close on or about 13 June 2008.

Stations who do not confirm their status for more than 12 months may be dropped from the table.

Scanning Amateur Radio

Will McGhie VK6UU
National WIA Historian
will2@iinet.net.au

Over two years ago a project to scan *Amateur Radio* magazine began, beginning with the first edition printed in October 1933. There had been other magazines but this was the first attempt at a National publication, which has lasted to this day.

The first difficulty was to source the magazines. Copies are held at some libraries but they are difficult to find and sometimes the copies are on microfiche and not suitable to scan. Eventually an almost complete collection, from October 1933 to December 1939, except for July

1938, was found. The National WIA had the collection along with the World War 2 years and beyond. The missing July 1938 was eventually sourced from Amateur Radio Victoria. There are however still several missing from 1940. If you have any *Amateur Radio* magazines from the

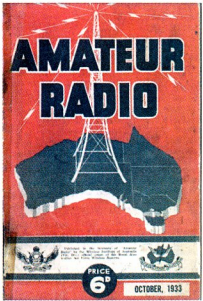


Photo 1: The front cover of the October 1933 *Amateur Radio*.

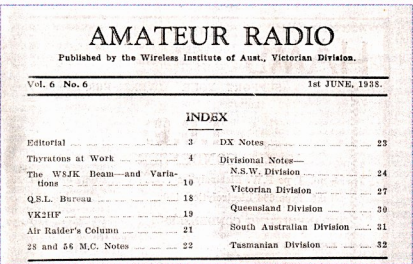
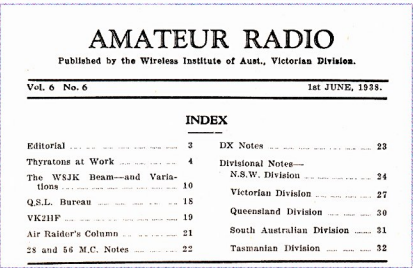


Photo 2: (above) The index page from the June 1938 *Amateur Radio* magazine, in its original state today.

Photo 3: (below) The same page after computer enhancement.



1940s please let me know, as this would almost complete the collection.

Amateur Radio was half the physical size of today's publication and averaged over 30 pages, with a single colour front cover. Scanning is a labour intensive repetitive process. Scanning 1933 to 1939 is doing the same process 2,400 times! Computer enhancement does produce a near perfect result, but this also is very time consuming, but worth the effort. Most of the 1933 to 1939 magazines have been computer enhanced.

The magazine was forced to change to a much cheaper and poorer quality offering from 1941 to 1945. Advertisers had withdrawn support, believing as most amateurs were serving in the forces, they would not be able to receive their magazine. During this time the magazine increased in physical size to today's size.

It is intended to release the 1933 to 1939 series soon on CD as a trial to see if there is a market. This series has not all been computer enhanced but updates will be available in the future.

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Contest Calendar for May 2008 – July 2008

May	10/11	CQ-M International DX Contest	CW/SSB
	10	VK/Trans-Tasman 80 metres Phone Contest	SSB
	24/25	CQ WW WPX Contest	CW
	24	VK/Trans-Tasman 80 m CW Contest	CW
June	7	QRP Sprint	CW
	7/8	IARU Region 1 Field Day	CW
	14/15	ANARTS WW RTTY	Digital
	14	Asia/Pacific Sprint	SSB
	21/22	All Asia DX	CW
	28/29	King of Spain Contest	SSB
	28/29	Marconi Memorial Contest	CW
	28/29	ARRL Field Day	All
July	1	Canada Day Contest	CW/SSB
	6	VK/Trans-Tasman 160 metres Phone Contest	SSB
	12/13	IARU HF Championship	CW
	14	Jack Files Memorial Contest	CW/SSB
	16	Moon Contest	CW/SSB/Digital
	19/20	CQWW VHF Contest	All modes
	20	VK/Trans-Tasman 160 metres CW Contest	CW
	26/27	RSGB IOTA Contest	CW/SSB
	27	Waitakere (NZART) Sprint	SSB

Welcome to this month's Contest Column

I sit here in the shack, having just participated in the John Moyle Memorial Field Day. All radio gear is now back in its 'usual' position – but connecting it all together can wait until tomorrow!

An interesting contest, as it was the first JMMFD in which I have participated. The VKCL software worked nicely with only a handful of hiccups, allowing logging and repeat QSOs to be a doddle. The team managed 647 QSOs for a claimed score of 1290. Not bad for a first effort, but probably not a winning one, I suspect, as we worked some stations with some very nice numbers!

I also had a single operator entry into the CQ WPX SSB contest in late March, entering a single band section on 40 m. The band seemed to be quite lively with many stations from the USA and Japan. Murphy struck with me yet again, with my ATU flashing over and my amplifier

cooling fan calling it a day during the first QSO. I had to resort to the low power section as QRO was not possible. I had originally thought that the QRP section was the one for me – but I should have read the rules as this section limits output to 5 watts and not the 10 watts that I used. A lesson learnt!

I really wanted to participate for the full period of 36 hours for a single operator entry, but home circumstances truncated matters somewhat to limit my operating time to only a few hours over the weekend. I got 260 QSOs into the log and a score of a little over 205,000. I hope you had some fun and enter a log – the more the merrier! There were plenty of VKs heard on the bands, so hopefully a good number of stations will submit a log.

ANARTS RTTY

Time to brush-off that old Creed 7B oil guzzler and have a go in the ANARTS RTTY contest. Alternatively, just use a PC with a bit of interfacing hardware and see how you go. The normal practice of CR/LF during rag chewing tends to be altered somewhat. Putting excessive CR/LF before CQs and responding to callers can cause problems with modern software, as it is difficult to click a mouse on the callsign of a station within a software window, when the callsign is hurtling up the screen due to multiple CR/LFs being sent!

For a newcomer, and I include myself in that category, it is useful to spend some time getting used to tuning RTTY signals prior to the contest. Filter selection is usually 250 Hz or 500 Hz to enable a single signal to be plucked out of the ether and decoded accurately. It would also help to have a few QSOs to make sure that your gear is working OK. Just because you see RF being transmitted does not mean that the signal is not

inverted for some reason. This will result in long CQs going unanswered – until someone is kind enough to tell you your error. There are bonus points available to overseas stations for working VKs during the contest, so you might be in demand!

RTTY Frequencies

To find RTTY signals, have a listen around these frequencies:

80 metres: 3570 to 3615 kHz (JA 3520 to 3525 kHz)

40 metres: 7030 to 7100 kHz

20 metres: 14070 to 14120 kHz

15 metres: 21070 to 21120 kHz

10 metres: 28075 to 28120 kHz

Note, that there is no 160 metre and WARC Band RTTY Contesting.

Ten RTTY Pointers

Message buffers should have a carriage return (ENTER) at the beginning and only a space at the end. Following this practice really helps pick out sent information such as a call sign or the contest exchange.

Consider starting your CQ with the contest name and end it with CQ e.g.: BARTG DE VK9XYZ VK9XYZ CQ.

Poor Audio

It is a shame to find that operators will spend quite an amount of money on radio equipment and then not spend sufficient time to make sure that the quality of their transmitted signal is as good as they can achieve. Some simple adjustments to the radio itself are often all that is required. Most transceivers these days can be adjusted to sound okay with a reasonable microphone. It may be the case that much of the poor audio problems could be attributable to RF getting back into the audio systems where we have audio going in and out of PC sound cards, DVKs, SO2R radio switches etc. Perhaps some investment in 600 ohm/600 ohm transformers is required to get rid of earth loops.

Listening around during the recent WPX SSB contest, a few stations were heard with distorted audio – usually due to processors turned-up way beyond their needs. The resultant audio is distorted and can often cause requests for repeated information during contest exchanges.

This way, a station tuning in midway of your CQ will know you are not calling another station, but CQing.

Use spaces to separate your numbers, e.g.: 599 001 001. There is no real advantage to using hyphens. It is preferable to send the full 3 digits, it is easier to click on 001 than 1. In normal conditions the exchange is sent twice but the RST only once. In poor conditions exchange may be sent 3 times, ex: 599 001 001 001.

Do not use 5NN, use numbers, e.g. 599. RST 5NN requires data to be sent to the receiving station that you are about to transmit letters, then numbers, then letters again, so it is shorter to send RST 599 as they are all numbers after the RST part. The RST part is still required as the receiving station might think that 599 is your serial number to them. RST is sent only once and not repeated if the exchange is sent again. Read the rules, if the RST is not required, don't bother to send it.

Keep the transmission short and limited to just the essential information needed for the contest exchange.

It is important to have macros to ask for (or repeat) specific information

instead of asking for an entire repeat or sending an entire repeat of an exchange. Repeating the entire exchange when only one piece of information is needed is a waste of time. Additionally, have macros ready for special situation, ex: SRI QRG QRL, SRI YOU ARE OFF FREQ, SRI NO QSY, SRI NO COPY CUL, etc.

If you are in RUN mode (CQing), reply with (TheirCall) the exchange (TheirCall). If there are many callers or QRM, it is important to confirm to whom you have sent the exchange.

If you are in the S&P (Search and Pounce) mode, never send your exchange to the CQing station until he has acknowledged your call and sent his exchange first! Do not send TheirCall but only YourCall, ex: DE VK9XYZ VK9XYZ, then reply with only your exchange, e.g.: TU 599 002 002. (TU says it all: QSL, TU, 73) The DE can be omitted.

Do not use (NAME) while in S&P mode. In RUN MODE, it is your choice to use it or not. It is a nice touch but not absolutely necessary – see item 5.

Put the word RTTY in the comment field of DX spots if you are spotting stations.

Have a go and have some fun!

Unfortunately, a few of the stations heard were VKs and yes, I did make comment during the QSO if I had trouble getting the details from the station. We all make mistakes and the wrong control can be tweaked in the heat of contesting battle, but if nobody tells them then the error perpetuates if they are not monitoring themselves....

Assistance

What is it? Does someone making you a cup of tea place your single operator entry into the "assisted" category? A general definition of "assistance" is any person or "system" which helps identify and "capture" specific stations and place them in the log. That may be considered to include spotting networks, packet, "skimmer", and other similar "things".

There are various viewpoints on this aspect but I suppose it boils down to: As long as a single human operator hunts down and identifies target stations for

his/her log, then personally copies the exchange without outside "hints", he/she is operating as Single Operator Unassisted. There have been reports of operators entering the unassisted category whilst actually being logged-in to the packet network for multiplier spotting. This is against the rules of the vast majority of contests – but not all. Some contest organisers actively encourage the use of facilities such as packet and do not penalise entries using it. There are statistical methods that are used in picking up packet cheaters, by analysing a station's behaviour relative to the posting of packet spots. A careful cheater could probably cheat with packet just enough to win, but not enough to attract attention. For example, with logging programs placing spots on a band map, what is to prevent anyone who wants to cheat from simulating the behaviour of a proficient SO2R operator and working spotted stations in a steady progression up or down a band? How

Beware of dog trackers

do you distinguish between a very good SO2R operator and someone who is unfairly using either packet or CW Skimmer "just enough to win"?

Assistance traditionally is basically using a packet system for the additional "monitoring" of the bands to flag stations of interest to the operator. However, there are other ways to get this information perceived as beneficial and an unfair advantage to a single operator. Remote operation of a station can aid matters as this approach gives an unfair advantage by having the ability to build antennas that would not be available in normal residential areas, or the ability to operate from geographically advantaged locations (e.g. rare zone, country, section) without being a resident or travel, or even the ability (although not legally) to use multiple receive locations. If these approaches are taken then whilst being perceived as a possible unfair advantage, they are not outside the Unassisted/Assisted categories as there is only a single operator at the controls. The latency, or lag, effect from the use of the internet or other controlling medium can cause significant delay and that delay can cause numerous problems in a contest.

But is equipment without an operator really a "station"? An operator without equipment is not a "station" so possibly not. Some contest organisers have included a set of "address" rules to limit the extent of the station to be within a given distance – usually around a 500 m radius. The "address" bit of the rules was included after a particular group of hams in Europe tried to argue that because a communist state (in which they lived) owns everything in the country, the property boundaries of any station in their country extended all the way to the country's borders. They tried to exploit that argument to allow multi-multi stations operating as one station, spread across their country. I understand that the contest entry was disallowed.

If you have any contest related material for inclusion within the column, topics that you would like covered or even some experiences and pictures you would like to share, then please feel free to get in touch via vk4baa@wia.org.au.

See you on the bands.

73 de VK4BAA Phil Smeaton

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This may be of interest as an example of what can happen when technology and the unsuspecting public come together via an apparently less than scrupulous supplier.

I was approached by a work colleague, who knew of my interest in radio, for assistance with programming a receiver he had purchased. In due course the radio and instruction sheet arrived on my desk, with the information that it had been purchased for the purpose of tracking dogs. In this system, a small transmitter is attached to the dog's collar, operating near 215 MHz. This is then tracked by the receiver – quite useful for people like deer hunters who may otherwise lose their dog in the bush. My colleague had been unable to program the radio from the instructions supplied, and also wished to be able to scan across a number of frequencies, to track several dogs.

The receiver turned out to be a small scanner, with an unknown model number in the instructions and on the 'splash' screen when turned on. However it was in a Yaesu soft case (the first clue) and the identification sticker under the belt clip, while partly blacked out and almost totally obscured, confirmed that it was made by Vertex Standard. So far, so good. However a Google search on the model number turned up absolutely nothing. After some more searching, it became apparent that what we had was none other than a standard VR-500 – but with some differences.

First, the serial number sticker had been blacked out to remove model information. On close inspection, the model number and manufacturer, which are usually located above and below the display, had also been blacked out under the transparent faceplate – but not so carefully, as the faceplate had been chipped at one side, apparently while being removed and replaced. The standard Yaesu antenna (which has the brand imprinted into it) had been replaced with a generic scanner 'ducky'. The turn-on 'splash' screen had been reprogrammed to the supply company's brand and model. And none

of the original instructions had been supplied – just a number of photocopied A4 sheets with rather garbled and almost incomprehensible programming information, and no information on how to scan multiple frequencies. And finally..... the price for this receiver? Well over \$300 above the listed price for a VR-500, which in Australia is around the \$450 mark at the moment.

My colleague was very pleased that we had managed to track down some better instructions for his radio (easily downloaded once we knew what it was), and departed muttering about what he was going to say to the company who supplied the dog tracking system!

John Morrissey VK3ZRX

"Hey, Old Timer..."

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DX - News & Views

John Bazley VK4OQ

P.O. Box 7665, Toowoomba Mail Centre, QLD 4352.

Email - john.bazley@bigpond.com

Last month I referred to the recent Clipperton DXpedition and how at times we do not appreciate the effort made for us to have a QSO. Little did I realise when I wrote that what problems they would have. Having landed on Clipperton on March 6th they issued the following Bulletins on March 9th - 12th and 15th:

MARCH 9th, 1900z: Just as we were about to begin operating yesterday at noon Clipperton Time, the sky opened up and for the next two and a half hours both the CW and SSB tent operators had their hands full plugging leaks in the tents, protecting the station equipment, rescuing antennas that had been toppled by the nearly 50 mph gusts that accompanied the rains and hoping that the lightning would not hit our verticals. After three gruelling days, we were set back yet again by Mother Nature. But the good news is that we're operating and filling our logbooks with QSOs. We are planning on beginning uploading the logs very shortly. As soon as we do, we will make the announcement on this page.

MARCH 12th: QSOs now total 41,564. Yesterday we had three major thunderstorms that tore up the camp. Generators in both the SSB and CW camps went down and took repairs to get back up and running. Winds toppled antennas which had to be repaired. We lost our 15 metre SVDA in the SSB camp which was destroyed by the winds. We will attempt to straighten or replace the broken aluminium today. Two of our CW keyers went down and we cannot repair them. So our operators are sending CW the good old fashioned way but it is reducing our QSO rate. Morale is high and despite the weather we are all working as hard as we can. The thunderstorms are also causing our noise levels in the night to be extremely high. These thunderstorms have been increasing in size and frequency for the past several days. Although they blow through in about 15 minutes, they dump on average about an inch of rain or more and are accompanied by very strong

gusting winds.

TX5C went QRT 1400Z March 15th 2008, two days earlier than originally planned, due to both weather and sea conditions. The Captain of the Shogun insisted that an earlier departure was required to ensure the safety of his crew and our team. We began moving equipment offshore two days prior in challenging conditions. By the time the last team members were extracted from the atoll late in the day, all but one of the Zodiac spare propellers had been broken on the reef. The Shogun pulled anchor at 0130Z March 16th and as the sun set, the team watched Clipperton Atoll slowly fade from view.

TX5C made 71,794 QSOs in 156 hours (6.5 days) of operating.

After many years permission has been granted for a DXpedition to Glorioso Island (FR/G). The Glorioso Islands (Iles Glorieuses) are a sand and coral archipelago that stretches in length to almost 16 kilometres and are located approximately 220 kilometres northwest of Madagascar (5R). The archipelago is made up of Grande Glorieuse (roughly 3 kilometres in diameter) and Petite Glorieuse (600 metres in diameter), which are 10 kilometres from the main island. The archipelago also includes Verte Rocks, Wreck Rock and South Rock. The main island is located at 11 33' South 47 17' East. The highest point on the main island is a sand dune about 10 to 12 meters high. Glorioso is ranked at number 4 in The DX Magazine's 2008 Most Wanted List and has not been active since May 2000. The DXpedition to Glorioso is expected to start in early May. Probably between May 5th and the 9th for some weeks reports F6AJA, Jean-Michel, editor of Les Nouvelles DX. At present the operators scheduled to operate from there are Pascal F5PTM, Freddy F5IRO, Stephane F6KIN, David F8CRS, Yves-Michel F5PRU, and possibly three others. They will try to have three or four stations active. The team is looking for sponsors, who can contact Didier F5OGL, who will also be the QSL manager.

For those interested in QSL cards, Jean-Michele F6AJA has a very interesting QSL collection (28 different QSLs) from Glorioso. You can see the collection at <http://tinyurl.com/yrx8o>. He is still in need of QSLs (JPGs) for FR5ES/G, FR5HG/G and FR5KH/G.

FH: Georg DK7LX will be active holiday style as FH/DK7LX from Mayotte (AF-027) on 11-23 June. He will operate CW on all bands, with an emphasis on 30, 40 and 80 metres, using vertical arrays as well as dipoles. QSL via home call, direct or bureau. Further information will be available at <http://www.dk7lx.mayotte.2008.ms/>

V7: Randy V73RY has been regularly active from Kwajalein (OC-028), Marshall Islands since May 2005 and will be returning to the US in May 2008. SSB is his preferred mode, but he also operates a little PSK31, CW and other digital modes. See QRZ.com for information on his operating habits. QSL via N7RO. Logs are uploaded to LoTW.

A5: Torben OZ1TL will be active as A52TL from Bhutan on 2-23 May. He plans to operate 99% CW on all bands. QSL via OZ1TL. Logs will be uploaded to LoTW.

Start looking for **Svein LA9JKA** to be "very active" as JX9JKA from Jan Mayen starting this month through early October 2008. He plans to be QRV on 6 through 160 metres on SSB and the digital modes. QSL via Svein Rabbevag LA9JKA, Brendlia 12, N-6013 Alesund, NORWAY with at least one IRC or two green stamps.

VK4FRAJ and VK4AN are planning an operation from the Mamanuca Group (OC-121) from 17-30 May 2008. It is Raj's first DXpedition, and the 40th anniversary of Ed's first DXpedition (as VR3DY-KP6AP in 1968). Keep an ear open for the father-son team of Ed 3D2A and Raj 3D2B. During the CQ WPX CW contest they will use 3D2A in the multi-op single-tx LP category, other times using 3D2B. There is a possibility of one or two other ops joining them for the contest. QSLs to VK4AN.

Digital voice should be for FLs too

I would like to put forward the opposite position to Brian Kendall's assertion that use of digital voice is a privilege rightly withheld from Foundation Licence holders (VK3WL letter in AR March 2008). Brian's argument is that Foundation Licence holders already have access to enough, so they should gain higher qualifications to access more. This attitude suggests a desire to hold people back rather than support them advance.

In most walks of life, licences are issued to people who are sufficiently competent. They are not products or services where it is usual to give more for greater benefits. The Standard Licence syllabus does not contain digital voice and therefore I do not understand why obliging people to clear this hurdle before using the mode makes sense. Digital voice is a modulation method that can be used within bands that Foundation Licence holders are permitted to access, provided they do so using commercially available equipment, limited power levels, etc, etc. My own experience of the D-STAR digital voice mode is that the additional skills required are more akin to configuring computer software or a mobile phone than radio related. As such

I believe that the ACMA has missed the point by forbidding Foundation Licence holders access.

As only a minority of WIA members are Foundation Licence holders, it might be that this issue is of limited interest to the WIA. I recognise that the ACMA decision was against the WIA's position but I encourage the WIA to keep pushing. In the commercial arena, voice communications has been mostly digital for over a decade now - witness the 20 million digital voice mobile phone customers in Australia alone. Restricting access to this mode within the amateur community puts us well behind the radio development curve, and is not going to accelerate broader community interest in studying for their Foundation Licence. Innovation and investment usually flourishes where regulation is absent. If we want a small amateur community locked in the past then we should support the ACMA position. Personally, I dream of a vibrant, forward looking, expanding amateur community keen on innovation and pushing the envelope. That requires a supportive regulatory framework, and not regressive rulings like this ACMA decision on digital voice.

Ben Ramsden VK2FLV

Silent key

QSL V51AS: Frank Steinhauser V51AS has a new mail address: Am Rosenkothen 17, 40880 Ratingen, Germany.

Stig LA7JO, currently home in Norway, says he will be on from the Maldives with his 8Q7JO callsign March 13-24, but his activity will be limited. He plans to be back in Nepal using 9N7JO, on and off from March 26 to June 30. He will leave Nepal at the end of June. Since January 2005 he has made 77,000 QSOs as 9N7JO, on SSB, CW, PSK31 and RTTY, from 160-6 m.

Piel Island: A group of nine operators from the north west of England is going to be operating from a small island off the north west coast on the 24th and 25th of May 2008. The name of the island is Piel and a short video clip to promote the trip can be found at:

<http://www.youtube.com/watch?v=DeCPIIGLWw>

Hopefully, with the advantage of salt water we hope to work stations worldwide.

Sean 2E0BAX

Happy DXing.

Special thanks to the authors of *The Daily DX* (W3UR), 425 *DX News* (1I1QJ) and *QRZ.DX* for information appearing in this month's *DX News & Views*. Interested readers can obtain from W3UR a free two week trial of *The Daily DX* from www.dailydx.com/order.htm

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Walter Stanley Cuffley (Stan) West VK4WY

Stan was born in Brisbane on the 20/10/1922 and died of a heart and kidney failure in a nursing home in Laidley at 0930 on Monday 4th February 2008 aged 86 Years. He became ill in June 2007. This stopped him playing his much loved game of tennis and his car driving, but it did not stop his amateur radio activity. Despite his illness, he was heard every morning as regular as clockwork on the Coral Coast Net until he was admitted to the Greenslopes Hospital on Christmas Day 2007.

Stan lived the first ten years of his life in Oxley, Brisbane, with his parents

on their poultry farm, (they were well known for their prize winning cocks), and he first went to school at Oxley. When in 1932 his mother died, they sold their farm, moved to Milton and lived with his grandmother.

Having ended his school years in Milton, he became employed in various jobs until he joined the Air Force in 1940. Stan served in New Guinea, Townsville, Amberley and Archerfield. During that time he married his wife Rose. After the war, he became interested in amateur radio. He completed a radio course with "The Australian Radio College",

obtained his A.O.C.P. on the 13th of June 1963 and built his own radio station. He worked the world on both CW and phone and taught his daughter, Pam, Morse Code. He undertook and completed a cabinet maker's course and became employed as a cabinet maker in Woolloongabba and Balmoral.

Stan and Rose were divorced in 1967. He is survived by his five children, two sons and three daughters. Stan lived on his own in Murarrie. A true friend and gentleman, he will sadly be missed by all who knew him, especially participants of the "Coral Coast Net".

Submitted by Peter Oliveri VK4PO.

VHF/UHF – an expanding world

David Smith VK3HZ – vk3hz@wia.org.au

Weak Signal

David Smith - VK3HZ

March 18th was a day of good conditions for both the VK2 to ZL path and the VK3, VK5 and VK6 areas.

The Channel 5A transmitter at Newcastle was being heard in northern NZ. At 0420 Z, Ross VK2DVZ at Taree made contact with Nick ZL1IU on 2 m with a 5x4 report. Ross subsequently worked ZL2TAL (5x1) and ZL1AVZ (5x1). He tried 70 cm with ZL2TAL, but nothing heard. Steve VK2ZT also worked ZL1IU (5x4), ZL2TAL (5x1) and ZL1BT (5x2). ZL1IU also worked Col VK2KOL in Sydney (5x8) and Karl VK2GKA in Mittagong (5x2). The last VK/ZL contact was at 0905 Z.

Meanwhile, things were building up over the southern part of the country. At 0800 Z, the Esperance 2 m beacon was reported in Adelaide. By 1030 Z, it was audible in Ballarat and Melbourne. The Albany 70 cm beacon was by then audible in Adelaide. Unfortunately, no contacts were made.

However, conditions between Melbourne and Adelaide were picking up. The 70 cm Geelong beacon was being heard in Adelaide, and, at 0920 Z, on 70 cm, Brian VK5BC worked Mike VK3AAK (5x1) and Mike VK3BDL (4x1). At 0950 Z, Peter VK5ZLX reported hearing the VK3RXX and VK3RLP 23 cm beacons in the Melbourne area. On 23 cm, he worked Mike VK3AAK (5x3) and Chas VK3PY (5x1). Mike VK3BDL worked Phil VK5AKK (5x1) on 23 cm.

The following morning (19/3), conditions were still good. Alan VK3XPD worked Phil VK5AKK on 23 cm (5x2). In Adelaide, the 2 m Esperance beacon and 70 cm Albany beacon were both good strength – peaking to S7. At 0330 Z, Wally VK6WG worked Roger VK5NY (5x2) and Brian VK5BC (5x1), both on 2 m. The beacons were audible throughout the day, and at 1220, Brian again worked Wally on 2 m at 5x9. They also worked on 70 cm (5x3). Meanwhile, Rob VK6JRC was making some hasty repairs to his temporary station. At 1250

Z, he finally worked VK5NY (4x1) and VK5BC (5x1).

At 1200 Z on the 14th of April, Phil VK5AKK worked Wally VK6WG on 2 m (5x3) and 70 cm (5x1). Bill VK5ACY, recently having moved from Kangaroo Island to Adelaide, reported hearing Wally on his temporary 14-el Yagi at 14 ft (4 m).

EME

Doug VK3UM has been busy with the DUBUS European EME Contest (70 cm) held over the weekend of 15th and 16th March. Doug reports:

At moonrise, Faraday was aligned with slow QSB but at ~10° elevation polarity changed to ~45° and stayed that way until ~1220 Z when significant libration, deep fading, and widely swinging polarity made conditions quite challenging. While northern hemisphere stations were battling with snow, wind and gale force winds, I had temperatures of +41° C on both days (if only we could share!).

The 45° Faraday offset reduced signal levels of course, but it probably helped those with fixed polarisation. Patience was required to combat the fading but I managed to work single and 2 Yagi stations without query (YYY). As an aside (a tip for new stations), increasing CW speed is far better than slowing it down. Trying to duplicate the other station's speed is always good practice. I battled with a couple of guys during periods of Libration where that would have been an advantage from my view point. Thanks for their persistence.

Activity level was very good. I was very pleased with the North American turn out (compared with previous months) and, although the number of stations has diminished significantly over recent years, there was plenty of activity to keep all quite busy. The operating technique and manners were exemplary from what I heard in keeping with 70 cm tradition. It was a 'pleasant' change to have to work for your QSOs given the Libration,

QSB, swinging polarity. Everybody was spread out and mutual QRM seemed at a minimum. I think I worked all available, with the exception of WW2R (not a trace) and 9H1TX whom I realised after my Moon set. It was a thoroughly enjoyable weekend, most fitting to the dedicated memory of our highly respected and sadly missed friend, Jose EA3DXU SK.

A total of 42 random QSOs (4200) and 39 Multipliers gave a Claimed Total Score of 163800.

Charlie VK3NX was also participating in the DUBUS EME Contest, although on the 5.7 GHz and 10 GHz bands. He reports:

Participants seemed lower than last year, unfortunately. It was disappointing not to work any stations to my east (NA).

On the 15th for my first moon pass on 5.7 GHz, conditions were difficult at my QTH due to very enhanced local tropospheric conditions on the microwave bands. This produced scattering of signals and created a very spread received signal for all stations. Luckily on the 16th, when I operated on 10 GHz, the local conditions subsided and the signals were exceptional.

On the 15th on 5.7 GHz, worked OK1CA (new #), OK1KIR, ES5PC and JA6CZD.

On the 16th on 10 GHz, worked OK1KIR, ES5PC (new #), OK1CA and F5JWF (new #). Did not complete with HB9SV due to moonset, but very loud signals. I was astonished to hear ES5PC with his 6.5 W on 10 GHz.

I am sure more stations were active, especially on 10 GHz on the 15th, but due to my shorter windows because of declination, I chose to stay on one band for the entire pass. It would take approximately 1 hour to do a complete band change - feed, amplifiers etc - and this is "valuable time" during a contest.

Please send any Weak Signal reports to David VK3HZ at vk3hz@wia.org.au.

Digital DX Modes

Rex Moncur – VK7MO

Congratulations to Joe VK7JG on working OY3, Faroe Islands on 6 metres EME using JT65a, and to Leigh VK2KRR who made his first 23 cm EME contact with G4CCH.

Jim VK3II has been using his GPS-locked rig to explore tropospheric

scatter Doppler shift with Rex VK7MO. Doppler shifts on 2 m were recorded of up to 75 mHz on a 500 km path to Hobart and this reduced to around 6 mHz when the path was reduced to around 80 km.

David VK3HZ and Rex VK7MO have been testing GPS locking of their 10

GHz systems and were pleased to see the Frequency Difference on JT65 is consistently zero Hz and that there is no difficulty in running JT65a.

Please send any Digital DX Modes reports to Rex VK7MO at rmoncur@bigpond.net.au.

The Magic Band – 6 m DX

Brian Cleland – VK5BC

March was a very quiet month on 6 m with no "E" openings and only a smattering of openings to JA from far north Queensland late in March and early April.

John VK4TL from the Cairns area reports working 9M6XRO CW 539 on the 4th March and then on the 11th March 3 x JAs, 27th March 16 x JAs, 29th March 15 x JAs, 2nd April 3 x JAs. Late on the 3rd April John heard the VR2 beacon and worked a further 5 x JAs. John also reports that Ian VK4AFC who also worked 9M6XRO is back on 6 m after an absence of about 20 years. Russell VK4BEG from the same area also reports the following:

27/03/08 J1, J2, J5 & J6 call area 10 contacts
(Band open 0650-0715)

29/03/08 J1, J2 & J3 call area 24 contacts
(Band open 0550-0715)

02/04/08 J1, J2, J3, J5 & J6 call area 12 contacts
(Band open 0500-0600)

04/04/08 J6 & J1 call areas 2 contacts (Band open a couple of minutes only)

A little to the south, John VK4FNQ at Charters Towers reports good openings to Japan on 27th, 29th and 31st March, the 29th being the best opening when John worked 22 JAs. John also reports hearing the V73SIX beacon on 30th March.

Not to be left out of the action, the Mackay boys Andrew VK4KAY and Kevin VK4BKP have also had some openings to the north. Kevin reports hearing the following beacons;

09-03-08 0404Z AH2G/B Beacon 50.0045 5X6,

11-03-08 0441Z JE7YNY Beacon 50.027 519,

26-03-08 JA2IGY Beacon 50.010 519

27-03-08 0712Z JE7YNY Beacon 50.027 519

27-03-08 0713Z JA2IGY Beacon 50.010 519

27-03-08 0731Z JA6YBR Beacon 50.017 519

29-03-08 0500Z V73SIX Beacon 50.013 519

On 27th March, Kevin completed contacts with VK5DX 5/7, J11DMA 5/7, JA1RJU 5/5 and heard JR6EXN 4/1.

Then on the 3rd April worked JA3EGE 5/8, JM1WBB 5/7 and JHOHZO 5/7.

Andrew also reports hearing many of the northern indicators and beacons but only managed one contact in between work commitments on the 2nd April with JR6EXN 5/1 whilst mobile in the Ute.

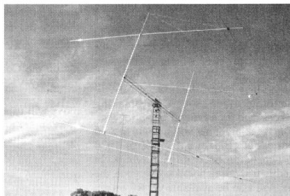
The northern activity has not extended much further south this year but Ray VK4BLK in Yeppoon has had a couple of JA openings and on occasions 49.750 carriers have been heard in the southern states with Brian VK5BC reporting them up to S9 early evening on the 8th April with the JA2IGY beacon audible for 20 minutes. There has also been the odd report of the VK6RSX beacon being heard in Japan and on the 2nd April JR6EXN reported the Perth VK6RPH beacon 529.

On 10th March, the 1st "E" opening of any substance since February occurred. VK4s were worked from VK3, VK5 and VK7. Kevin VK4BKP in Mackay worked Norm VK3DUT, Trevor VK3VG, Rob VK3XQ and Joe VK7JG. Russell VK4BEG near Cairns heard the VK5RBV beacon but unfortunately no VK5s were heard. A little later Brian VK5BC worked Doug VK4ADC, Col VK4CSC, Col's 1st DX contact on 6 m, Daryl VK4ADM and Wayne VK4WES mobile all from the Brisbane area. Doug VK4ADC also worked Colin VK5RO.

Another "E" opening on the 11th April from VK5 to VK2 with Brian VK5BC working VK2s FA, BZE, JDS and ZT.

Gary VK4ABW in Townsville is well on the way to getting a massive new

6 m array consisting of 4 x 13 element Yagis on 17.5 m booms completed. Gary reports the Yagis are constructed and all tested OK and is presently in the process of mounting them on the "H" frame. Will certainly be interesting to see how they perform. Hope the cyclones are kind to you Gary.



The VK4ABW Monster 6 m Array

Received a note from Eddie VK4AN who advises he and his son Raj VK4FRAJ are going on a DX expedition from 17th to 31st May 2008 operating from Malolo Island, Mamanuca Group, Fiji with the callsign 3D2A. The rig will be a FT-100 running 50 W with external beacon keyer and vertical coaxial antenna (bazooka). Both Eddie VK4AN [66 yo] and Raj VK4FRAJ [13 yo] will be the operators and they will be running a beacon on 50.105 MHz CW. If the beacon is heard, call them when it is not transmitting on either CW or SSB on the beacon frequency. They will not have 'live' internet access, but will check email once a day at the resort kiosk. QSL to VK4AN.

Please send any 6 m information to Brian VK5BC at bcleland@picknowl.com.au.

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New arrangements for the AMSAT monthly nets

With the aim of improving participation, accessibility and as a service to experienced operators, newcomers and potential participants, a new national Net has been organised in which the AMSAT-VK group will be joined by the Ozsat group. The new net will be known as the Australian National Satellite Net. Paul VK2TXT from the Ozsat group has done a lot of work to make this possible. The net has been moved from the 2nd Sunday to the 2nd Tuesday of each month. The AMSAT-VK net has been running for many years with the aim of allowing amateur radio operators who are operating or have an interest in working in the satellite mode, to make contact with others in order to share their experiences and to catch up on pertinent news. It is hoped the new format will facilitate other aspects like making 'skeds' and for a general 'off-bird' chat. The week night net will be held at 8.30 pm eastern time, i.e. 0930 Z or 1030 Z depending on daylight savings. In addition to our Echolink conference, the net will also be available via RF on the following repeaters and link:

In New South Wales

- VK2RMP Maddens Plains repeater on 146.850 MHz
- VK2RIS Saddleback repeater on 146.975 MHz
- VK2RBT Mt Boyne Repeater on 146.675 MHz

In Victoria

- VK3JED Preston, Melbourne on 144.296 MHz SSB simplex
- VK3JED Preston, Melbourne on 439.175 MHz FM simplex with a 91.5 Hz CTCSS tone.
- VK3RTL Laverton, Melbourne, 438.600 MHz FM, -5 MHz offset

In addition to RF, operators may join the net via EchoLink by connecting to either the AMSAT-NA or VK3JED conferences. The net is also available via IRLP reflector number 9509. We are keen to have the net carried by other EchoLink or IRLP enabled repeaters and links in order to improve coverage. If you

are interested in carrying our net on your system, please contact Paul via email at vk2txt@gmail.com. The new week night net commenced on the 11th of March 2008. Listeners are also reminded of our HF net which is held on the 2nd Sunday of each month. See www.amsat-vk.org or www.ozsatgroup.info for details. Amateur satellite operations is one of the most interesting and rewarding modes in our hobby. The birds are relatively easy to access and require very little hardware investment to get started. You can gain access to the FM 'repeaters in the sky' with just a dual band handheld operating on 2 m and 70 cm. These easy-to-use and popular FM satellites will give hams national communications and handheld access into New Zealand at various times through the day and night. Finally, the organisers wish to thank the Illawarra Amateur Radio Society for carrying our net on the Coastlink repeater network and Tony VK3JED for the use of his linking system. It is hoped by all that this move will usher in a means of helping newcomers and experienced satellite operators alike to enjoy the world of amateur radio satellite comms.

All communication regarding AMSAT-Australia matters can be addressed to AMSAT-VK – see the title box for details.

New format

In a month or two, when the new arrangements for the Nationwide Satellite Net has shaken down into shape, I will re-arrange the header box of this column to reflect any permanent changes. The net held on Wednesday 11 March was successful and the arrangements will remain the same for the immediate future with members and potential satellite users welcome to take part. The actual format of each session is still under discussion so if you have anything to contribute please get in touch with Graham via his e-mail address above.

Passing of Arthur C Clarke

Arthur was not a radio ham but most satellite users will have heard of him. The Washington Post noted his passing thus:

Arthur C. Clarke, 90, the world-famous science-fiction writer, futurist and unofficial poet laureate of the space age, died of a respiratory ailment March 18 at his home in Colombo, Sri Lanka.

He is probably best known for his novel *2001 – a Space Odyssey*, so brilliantly turned into an epic film by Stanley Kubrick. Arthur was an AMSAT Life Member. His member number, quite fittingly, was LM-2001. In the 1970s and 80s, Arthur was a frequent visitor to NASA. He was listed in the Goddard phone directory as a consultant in the LANDSAT group, and he also served as a consultant at NASA HQ. In 1945 he worked out that a satellite in a circular orbit with radius of about 42,242 km would have an angular velocity that matched the Earth's which would keep such a satellite in a fixed position relative to the ground. He had predicted geo-stationary orbits. Although the idea was originally scoffed at, the launch of "Early Bird" a generation later proved his prediction true. He also proposed that 3 such satellites spaced 120 degrees apart could cover the entire Earth apart from small areas around the poles. All this is now old-hat but in recognition of his far-sightedness, this piece of prime space real estate is now named the "Clarke Orbit" by the International Astronomical Union. The above is from various sources: AMSAT-BB, "Satellite Comms", Pratt and Bostian 1986 and some research of my own.

NASA Award for Tony Hutchison VK5ZAI

Tony has been the Australian coordinator of the "Amateur Radio on the International Space Station" (ARISS) project for over 15 years. He was recently recipient of a Group Achievement Award from NASA's Lyndon B. Johnson Space Centre in Houston Texas. This award was made *For providing sustained outstanding engineering support which has resulted in a record number of successful ISS amateur radio contacts.* Ten years ago Tony handled most of the communications between Australian-born Astronaut Andy Thomas VK5MIR and his family during his flight on MIR. During his time as coordinator, Tony

has been involved in the development of IRLP and Echolink for ARIS contact and the design of interface units used for ARIS teletype contacts in Australia and Europe. A well deserved award; congratulations Tony.

Terrestrial tests for KiwiSAT

Things are moving right along on the New Zealand KiwiSAT project. It is worth a look from time to time at their web site. The linear flight transponder was, at the time of writing, transmitting from the Whangaparaoa area with beam antennas pointing South. Now it is extremely unlikely that the signal will be heard in VK so here are some details.

The transponder is a "passband-inverting" type to partially compensate for Doppler shift when in orbit. This is standard procedure for transponders using frequencies above the HF range.

- Transmit Power is 2 Watts PEP.
- Beacon frequency is 145.885 MHz
- Uplink is from 435.265 to 435.235 MHz
- Downlink is from 145.850 to 145.880 MHz

A test transmission on 435.2544 LSB came out at 145.860 USB. In the early LEO days we used figures like this to calculate a "conversion factor" which could be used to work out expected downlink frequencies. Slide rule devices were common to make this calculation easier. Today's users will nearly all have easy access to automatic Doppler tracking software and computer controllable transceivers to make that particular chore a piece of cake. The linear transponder is 30 kHz wide and while any mode can be used, FM is strongly discouraged. Being a 100% duty cycle mode, FM could tax the available power budget. An additional telemetry beacon has been added to the design. Congratulations to all concerned with the KiwiSAT project on these recent developments.

OSCAR-11 still working 24 years on

Clive G3CWV has reminded us all that OSCAR-11 celebrated its 24th birthday on 01 March 2008. It was designed, built and launched rather hurriedly, within a time scale of six months, using commercially available

components, hardly any of which had been rigorously tested in the manner of today's requirements for orbital material. Congratulations to Professor Sir Martin Sweeting G3YJO, his team at the University of Surrey and associated groups of radio amateurs, for their magnificent achievement. OSCAR-11 is a satellite for telemetry buffs. Now that is not everyone's cup of tea, but I for one became fascinated by telemetry on first hearing AO-11's rhythmic brrrrp-brrrrp-brrrrp signal and building a decoder. I can still recall the feeling when the ASCII data began streaming down the screen of my BBC Acorn computer. It was the thing that prompted me to build an AZ/EL computer controlled antenna system. It is hard to believe that was over 20 years ago and the familiar old brrrrp-brrrrps are still to be heard on 145.825 MHz as AO-11 passes over. Amazing!

Anniversary of amateur radio SSTV from space

While we are on the subject of significant anniversaries, it is now 10 years since Slow Scan TV was first transmitted from the MIR Space Station. Miles WF1F reminded us of this fact recently. The first pictures were transmitted on 12 December 1998 and over the next couple of years over 20000 images were transmitted back to Earth. Miles also reminds us that in 1998 the resources just were not available to publicise all of these pictures. He will be upgrading the MAREX web site to include many of the pictures which have not been seen before. Thanks Miles. I have several on file which I was fortunate enough to download directly from MIR during that period. It will be good to see some others and reflect on the whole MIR experience.

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The AMSAT group in Australia

The National Co-ordinator of AMSAT-VK is Graham Ratcliff VK5AGR. Contact Graham if you wish to be placed on a mailing list for breaking news and net reminders. All communication regarding AMSAT-Australia matters can be addressed to:

AMSAT-VK
9 Homer Rd
Clarence Park SA 5034
Graham's e-mail address is:
vk5agr@amsat.org

Didn't make it to Parkes?

Don't miss Broken Hill!

WIA AGM

23 to 25 May 2008

The weekend offers a wide range of family activities for all interests:

Friday 23rd

6:30 pm - Evening meal at the Southern Cross Hotel.
8:00 pm - The History of Broken Hill - A Presentation by Peter Black at the Southern Cross Hotel

Saturday 24th

8:00 am - Informal Breakfast at the Southern Cross Hotel
9:00 - 12:00 School of The Air - A special opening and tour for WIA weekend participants.
9:00 - 12:00 Radio station 2BH - A special presentation for WIA weekend participants.
9:00 - 12:00 Visit the many local art galleries, museums and other tourist attractions.
12:30 pm - BBQ lunch at the Lions Rotary park.
2:00 pm - WIA AGM and Open Forum at the Broken Hill Entertainment Centre.
6:30 pm - WIA Annual Dinner at the Broken Hill Entertainment Centre
8:30 pm - Guest speaker.

Sunday 25th

8:00 am - Informal Breakfast at the Southern Cross Hotel
9:00 - 12:00 Guided technical tours of the RFDS base including a presentation on RFDS radio by Gary Oldman RFDS Telecommunications & IT manager.
9:00 - 12:00 Visit the many local art galleries, museums and other tourist attractions.
12:30 Lunch and weekend wrap up at the RFDS base, Broken Hill Airport.

Broken Hill is...

- a mining town with some of the richest deposits of silver lead and zinc the world has ever seen.
- a working town with mining being its major economic driver in conjunction with agriculture, art and tourism.
- a popular tourist destination and home to many art galleries and famous artists.
- has a history in radio, not only as a major base for the Royal Flying Doctor Service, which initially used Alf Trager's famous pedal powered outback radios.
- home of the School of The Air which also used the network of Trager's radios to provide education to students in remote outback locations.

AGM Registration:

WIA National Office 03 9528 5962

Attractions and accommodation:

www.visitbrokenhill.com.au

SOTA Australia asks: Are you up to the peak challenge?

Paul Stampton VK3IH

Summits on the Air (SOTA) is a new activity set to increase the activity of operators keen on field day operations and those who like to work them! Are you up to the challenge?

- Are you interested in portable operation but can only find a reason to get out on the odd occasion?
- Are you an armchair traveller who likes using your home station to talk to operators in remote and interesting locations?
- Do you enjoy the great outdoors – 4WDing, cycling, hiking, walking?
- Have you wondered if there are more ways to get younger hams interested in actually operating?
- Ever wanted to mount a DXpedition and attract worldwide attention but do not want to sail to an Antarctic isle?
- Do you have a Yaesu FT-817, Icom IC-703 or TenTec Argonaut that could do with a lot more work?
- Like to visit places with spectacular views?
- Would you like to be part of a

new amateur activity that is now operational in 16 countries?

Well..... the answer you have been looking for is being launched in Australia and you can be part of it!

Summits on the Air (SOTA) began in the UK several years ago and is now being formally organised for Australia by Paul Stampton VK3IH (The SOTA Association Manager) and Peter Watkins VK3TKK (the Victorian SOTA Regional Manager). The programme is similar in some ways to the Islands on the Air (IOTA) programme run by the RSGB in the UK but is based on the 'activation' by amateur operators of significant mountains, hills and peaks (Summits). Each Summit in Australia will have an individual alphanumeric label and the degree of difficulty in activation is reflected by a sliding scale of points.

You can be part of the programme by activating one of the listed Summits,

activating a new, approved Summit, conducting a QSO with a Summit operator, or if you are a Short Wave Listener, hearing a QSO between a Summit station and another operator.

Just to add to the fun you can only gain final access to the Summits on foot or bicycle and must operate from power derived from batteries, solar cells or the like. You must have the land owner's permission to be on the Summit.

You may make contact on any allowed amateur band, so all you need to get started is a hand held on a popular band like 2 m; even Foundation Licensees can be king of a pile up! VHF and UHF equipment is small and lightweight and significant distances can be covered with portable set ups and simple antennas from your prominent Summit location (see Peter VK3YE's Versatenna AR February 2003 and VK3IH's IH-Vertenna AR June 2007). Of course HF operation with whips, random wires, and even kite antennas can provide worldwide contacts with international SOTA chasers! (see Ron VK3VH's Shack in a Briefcase AR July 2002).

Certificates are available for various scores, leading to the prestigious 'Mountain Goat' and 'Shack Sloth' trophies. An Honour Roll for Activators and Chasers is maintained at the SOTA online database. Who will be the first VK ham to qualify?

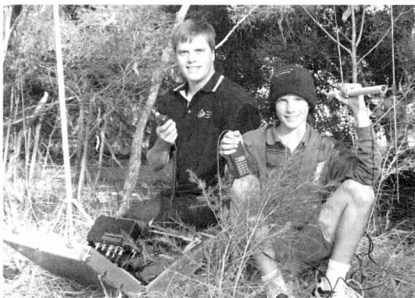


Photo 1: Paul Stampton VK3IH SOTA Association Manager and Sean Stampton VK3FSMS with some portable SOTA equipment including a 4-element 'fold-up' beam for 2 m SSB, a random wire and tuner for 40 m, and a 2 m FM handheld and beam.





Photo 2: Peter Watkins Victorian SOTA Regional Manager with his favourite antenna for SOTA operation.

IOTA - Islands On The Air

Aubrey Bannah VK4AL

IOTA is a world wide program that introduces a new and exciting dimension to DXing on the HF amateur radio bands from 160-10 metres.

IOTA activities centre around a broad range of activities designed to stimulate two way radio contact with island stations worldwide. For many amateurs working IOTA, and chasing island contacts, has become an enjoyable and highly regarded on-air activity. An estimated 20,000 amateurs world-wide enjoy IOTA, or island chasing, on a regular basis.

IOTA administration

The starting point and only authoritative place for official IOTA information is the RSGB (Radio Society of Great Britain) website <http://www.rsgb.org.uk/>. For IOTA information scroll down to the search box, type in IOTA and click. The direct URL to go to IOTA is <http://www.rsgbiota.org/>

Since 1985, the RSGB IOTA Committee has been responsible for the worldwide administration and management of the IOTA program and attends, and presents IOTA information, at many major amateur radio conventions.

The IOTA program is managed by volunteers on a non-profit making basis. The IOTA Committee has appointed a large number of amateurs worldwide as 'checkpoints', and advisers who assist it to administer the IOTA program in accordance with its rules, to foster DXpeditions and provide general IOTA information.

IOTA has been responsible for increased amateur radio activity on all HF bands, in so doing extensively promoting amateur radio. Many rare IOTA islands are also rare DXCC entities, so IOTA and DXCC activity complement each other.

The IOTA Directory

The RSGB IOTA Directory is the cornerstone of the IOTA program.

It is available from the RSGB. It lists about 99.9% of the oceans islands. The Directory costs about \$31.50 (UK£13) airmailed to Australia. The Directory

is essential reading for all IOTA island hunters and activators. It lists groups of islands that qualify for IOTA listing, by continent, region, and country, similar to the DXCC list. I recommend you purchase a copy of this directory.

IOTA islands by region

The IOTA Directory is divided into seven regions, covering:

EUROPE	EU
AFRICA	AF
ANTARTICA	AN
ASIA	AS
NORTH AMERICA	NA
OCEANIA	OC
SOUTH AMERICA	SA

The Directory lists the IOTA islands/groups by country, generally in accordance with the DXCC list.

Which islands qualify for IOTA?

As a general rule an island, atoll or cay will qualify for IOTA listing if it meets two basic rules relating to size and location:

Rule 1:

The island must be shown on a map with a scale 1:1,000,000 (10 km to 1 cm). An island may be assumed to meet this rule if it consists of a single unbroken piece of land in excess of 1 km in length measured by straight line at low tide.

Rule 2:

The island must, if it lies within 1 km of the mainland, be separated from it at all points by a minimum of 200 metres of sea at low tide.

Islands that DO NOT qualify for IOTA include those located in lakes, inland seas, rivers, or surrounded by a permanent ice shelf, or totally submerged by water for part of the day, or those that fail to meet the above criteria.

IOTA island groups

As a general rule, the IOTA Directory lists eligible islands (lying along the

The Summit lists are being prepared as you read this article and there are two ways in which you can participate in the setting up of SOTA:

You can nominate your favourite Summits for inclusion in the list. Just remember they need to be over 500 m above sea level and stand 'proud' of their surroundings by at least 150 m (this is called 'prominence'). Some peaks, even ones that may make great operating positions, may fail this test, Summits in SOTA are peaks that need to be 'individual' and stand out significantly from their surroundings.

We intend using normal Latitude and Longitude coordinates to locate Summits so please help us by providing these details in addition to elevation, and the amount of prominence (in metres).

Or,

You can nominate yourself (or suggest someone!) as a Regional Manager for any State or Territory (except Victoria). Please include brief qualifications for the position such as portable/field day operations, geographical knowledge/experience and administration skills.

We hope you can be part of SOTA in Australia - please do not hesitate to volunteer or ask questions.

You may like to visit the main SOTA website at; <http://www.sota.org.uk/> and the website of keen SOTA enthusiast GM4ZFZ; <http://www.gm4zfz.com/>

You may contact us via the email and/or mail address indicated hereunder:

69-71 Brown Street,
Leongatha. Vic. 3953.
stampton@desi.net.au

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coastlines of the world's continents) in groups.

Grouping has been necessary to limit the size of the directory and to prevent IOTA island numbers becoming an unmanageable figure.

For example, the east coast of Queensland and the Gulf of Carpentaria contain 1372 islands, not including shoals, reefs and inland waterway islands. Over 1000 of these islands are listed in the Queensland Place Names Act of 1994. Many of these islands do not qualify for IOTA.

For the purpose of IOTA listing, islands along the Queensland coastline are listed in nine groups, from Torres Strait to Moreton Bay. Each group has an IOTA reference number. Grouping of the islands into these nine areas makes the IOTA program simple and easy to manage, and use.

Another good example of IOTA island grouping is the Philippines. The Philippines consists of 1707 islands. The IOTA directory manages this large area by listing eligible islands in 20 island groups, each with an IOTA Reference Number.

Worldwide, 1200 IOTA groups of islands have been listed, and well over 1100 have been activated, at least once.

Island reference numbers

Each qualifying IOTA island group activated and validated with the RSGB since 1945 has been given an individual IOTA reference number.

For example, the Queensland islands in Moreton Bay (the Queensland South Coast Group) include Moreton, North Stradbroke, Lamb, Russel, St Helena, Peel, Karragarra, Green, Mud, Garden, and Coochiemudlo. This group is given the IOTA reference OC-137. Such IOTA numbers are often quoted on air, and now are printed on QSL cards.

The objective for the amateur 'Island Chaser' is to make two-way radio contact with at least one island with an IOTA reference number, in as many IOTA groups as possible, situated in the seven regions of the world.

IOTA awards and certificates

The IOTA awards program is sponsored by the RSGB. Eighteen separate awards are available, each of which is issued on presentation of satisfactory evidence of two-way contact with amateur stations operating from islands listed in the IOTA

Directory. Check the RSGB website for details. The IOTA 100 Islands is the basic award and the place to start. Examine your DXCC QSL Collection, as many of your contacts will be IOTA stations. To begin with, search for QSLs with printed IOTA reference numbers. Older QSLs without the IOTA number printed on them are also acceptable. Details are on the website.

IOTA computerized software program for award applications

The awards application process is available 'online' at <http://www.rsgbiota.org.uk/>. For more information check the RSGB website.

IOTA contact frequencies

The main SSB frequency is 14.260 MHz. Others on SSB are 28.460, 28.560, 24.950, 21.260, 18.128, 7.055, 3.755 and 3.765 MHz.

The CW frequencies are 14.040, 10.114, 3.530, 28.460, 28.040, 24.920, 21.040, 18.098 and 7.030 MHz.

These frequencies are not used exclusively for IOTA but are shared with others on a normal non-interference basis.

IOTA news and information websites

Perhaps the most useful source of DX and IOTA news for amateur radio operators can be found at the Daily DX: <http://www.dailydx.com/>

A number of IOTA operators and

groups maintain home pages with IOTA information. Check out www.usats.com/de-dx.html, www.islandchaser.com, www.425.dxn.org, www.dsepub.com/dx_news.html and www.wqde.com, as well as www.rsgbiota.org/

IOTA DXpeditions most needed DX entities

Part of the fun of IOTA DXing is chasing new rare islands and making contact with most wanted DXCC entities.

Activations in the first half of 2007 provided amateurs worldwide with an opportunity to contact two of the most wanted DXCC and IOTA entities in the world, BS7H Scarborough Reef AS-116 and N8S Swains Island OC-200.

Over 117,000 QSOs were made with Swains, and the DXpedition is reported to have cost in excess of US\$155,000.

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Editor's note

Swains Island lies some 1200 km south of the equator, 185 km south of Fakaofu (now Fakaofu), 314 km north and a little east of Apia, Samoa, 370 km north and a little west of Pago Pago, and 574 km west of Pukapuka (Danger Islands). It is now part of American Samoa after a chequered history of 'ownership'.

Scarborough Reef is in the South China Sea about 250 km west of Luzon in the Philippines. It is a much disputed territory due to the rich fishing grounds surrounding the reef.

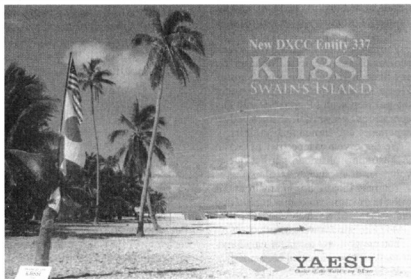


Photo 1: The QSL card from KH8SI, IOTA OC-200, the first Swains Island DXpedition, in July/August, 2006.

FLM Mk II now available!

After months of preparation, the WIA's much anticipated second edition Foundation Licence Manual (FLM) "Your Entry Into Amateur Radio" is now off the press.

"This is good news" said Phil Wait VK2DKN, WIA Director and Foundation Manual Editor. "We were expecting the second edition manual to be ready in early April but it had dropped back a couple of weeks, mainly due to the fact that we wanted everyone involved to be absolutely happy with it."

"We think readers will be happy with it too, as it incorporates many of the comments and suggestions we received to the first edition, as well as extra pages containing information on antennas, propagation and single sideband."

The WIA member and club price for the manual is \$19.50. The recommended retail price is \$24.50

You can order the manual, with delivery to your door through the WIA Online Bookshop, found under the Members area of the WIA website. Or you order from the WIA office. Packing and postage for a single copy is \$6.00, cheaper for multiple copies if combined with other books from the bookshop. For affiliated clubs, the WIA has a special offer of no packing or delivery charges for five or more manuals ordered. For all club orders, please contact the WIA office.

The following abridged prefaces to the second edition give an idea of what it is all about.

Preface to the second edition Michael Owen VK3KI

The Australian Foundation licence came into existence on 19 October 2005. Shortly after that, the First Edition of this Manual was published. In the preface to that edition I described the Foundation licence as an entry-level licence with restricted but attractive privileges, saying that it was "hopefully providing a new entry to this exciting hobby that will attract many new radio amateurs." It is clear that this hope has been realised.

The Wireless Institute of Australia is the body responsible for the management of the Australian amateur examination system and is the publisher of this Manual. In a little over two years, the WIA has qualified more than 2,000 Foundation licencees. The number and

spread of age and gender shows that the entry level licence is achieving exactly what it was hoped that it would achieve. Recently, the steady increase in the number of Foundation licencees seeking to upgrade to a higher amateur qualification shows the worth of this entry-level licence.

This book has been used by virtually anyone even considering becoming a radio amateur. It contains all the

attractive publication, to Roger Harrison for contributing A Guide to Propagation on the Various Amateur Bands, to Alan and Mavis Ford for proof-reading, to the many people who offered suggestions for the improvement of this edition of the Foundation Licence Manual.

Introduction Phil Wait VK2DKN

The New Foundation Licence Your Entry into Amateur Radio

Since first published a couple of years ago this manual has assisted over 2000 people to achieve a Foundation Amateur Radio Licence with just a few hours study, and so join the ranks of about three million radio amateurs worldwide.

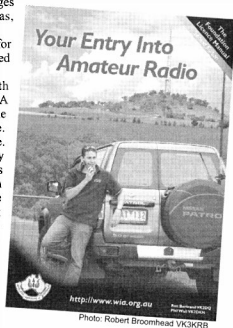
Amateur radio is thriving. A Foundation Amateur Radio Licence permits you to talk 'over the air' with people from all walks of life, and join in a wide range of activities and interests.

You can launch your signals across the globe using quite simple equipment, or use orbiting satellites, or converse with somebody in another country via internet linked repeaters and using an inexpensive handheld radio.

Amateur radio is a perfect partner to other interests and activities. Sailors, outback travellers, bush walkers, four wheel drivers, retirees, or anybody with a little time and a curious mind will find amateur radio very rewarding and it will also add to their safety. Take amateur radio along on your travels and you will never be alone.

I sincerely hope that this manual will not only help you obtain a Foundation Amateur Radio Licence, but also spark an interest in technology and spur you onto bigger and greater things.

Thanks to the many people who suggested changes for this edition. The most contentious issue appeared to be the direction of electric current flow in a wire, and we received as many letters saying we got it right as we did saying we got it wrong. Current flow has been contentious for many years and, in the end, we left it as it was (negative to positive) and commented on the issue in the chapter on electricity.



information necessary to obtain the Foundation qualification and more and is attractively presented. When first published, WIA knew ACMA intended to further amend the regulation of the amateur service. We thought that we would need to publish a second edition to incorporate the amendments necessary to reflect the further regulatory changes. Those changes have now been made, and the Foundation Licence relevant information included in this edition. As well, some clarifications have been made and useful information added.

The WIA owes much to the joint authors, Ron Bertrand and Phil Wait, to Robert Broomhead for the photography and production co-ordination, to designer Ivan Smith for making it such an

Hamads *classifieds* **FREE**

FOR SALE ACT

• Hewlett Packard Broadband Sampling Voltmeter Model 3406A. Eight voltage ranges, selected by front panel pushbuttons. Voltage range 1 millivolt to 3 volt full scale, with 20 microvolt resolution on the 1 millivolt range. Frequency range 10 kHz to 1.2 MHz. With manual. \$495. Peter Kloppenburg VK1CPK QTHR, email: pkloppen@iimetro.com.au

FOR SALE NSW

• Shack clearout: KENWOOD TS-830S, SP-180, SM-200D, SHURE 444 mic, \$800. KENWOOD TS-120S, VFO-120, PS-30, AT-120, \$500. KENWOOD R-1000 rx, SP-100, \$250. KENWOOD TS-700 \$150. KENWOOD TR-2400 H/H with chargers, base etc, \$120. KYOKUTO FM 2016A, \$120. PHILIPS PRM8030s, 1 each of VHF & UHF, \$120 ea. MFJ 1278B multimode TNC, \$120. 2 x MDS downconverters, \$50 ea. N & SO239 switches, filters, SWR bridges, mag. bases and mobile whips. Contact Roger VK2DNX, VK2DNX@hotmail.com, 02 9547 2546

WANTED VIC

• I am looking for a GENERAL RADIO GR-1931A Modulation Monitor. John Eglington VK3EGG, mob 0409 234 672 email vk3egg@optusnet.com.au

WANTED SA

• Genuine EIMAC NOS or low hours known good/full output 3-500Z tubes. Would prefer a matched pair but will consider single non-matched tubes. Wanted as spares to keep my old KENWOOD TL-922 linear amplifier serviceable. Contact Leigh, VK5KLT QTHR, Phone: 08 8367 0303 or email: leigh.turner@iees.org

FOR SALE QLD

• 1 ALINCO DX-70 all mode transceiver; 1 Universal Tuner; 1 power output meter; 1

SWR meter; 1 power supply; 1 Aerial change over switch; 1 BUTTERNUT vertical antenna 10/8 metre. No adjustment required; 1 G5RV inverted V aerial; 1 40 ft Telescopic steel mast; Heaps of heavy duty co-ax cable; guy wires available plus spares. This equipment is offered at half the original price o.n.o. Robert Nicol VK4DGF, 07 5497 5306

• DENTRON MLA-2500 linear amp. GWO and no mods apply. VK4DV phone 07 4928 5537 nights or email vk4dv@yahoo.com.au. ALSO TS520S with remote VFO, digital readout (not working) and spare 520s for parts

WANTED QLD

• Antenna tuner suitable for use with KENWOOD TS-520s. Contact VK4YOH@wia.org.au

FOR SALE WA

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Broadcast details

- VK1** VK1WIA: Sunday 1100 local, on 7.128, 146.950 and 438.050 MHz.
Email newsletter, on request, via president@vk1.ampr.org
- VK2** VK2WI: Sunday 1000 and 1930 local, on 1.845, 3.595, 7.146, 10.125, 14.170, 28.320, 52.525, 145.6000, 147.000, 438.525 and 1273.500 MHz. Also 5.425 MHz USB in the morning..
Plus provincial relays both sessions and country relays in the morning via local repeaters. VK1WIA news is included in the morning.
- VK3** VK1WIA: Sunday 10:30 am and 8 pm Local Time. Amateur Radio Victoria VK3BWI B/cast Network: 3.615, 7.158, 10.130, 147.250 VK3RMM Mt Macedon, 146.700 VK3RML Mt Dandenong, 147.225 VK3RWG Mt Baw Baw, 438.075 VK3RMU Mt St Leonard.
- VK4** VK1WIA: Sunday 0900 local via HF and major VHF/UHF repeaters.
- VK5** VK5WI: Sunday 0900 local, on 1.843, 3.550, 7.140, 28.470, 53.100 AM, 146.900 (SE), 146.925 (CN), 147.000 and 439.975
- VK6** VK6WIA: Sunday 0900 local, on 1.865, 3.582, 7.075, 10.125, 14.116, 14.175, 21.185, 29.120, 50.150, 146.700 and 438.525 MHz.
Country relays on 3.582 MHz and major repeaters.
Repeated Sunday, 1900 local, on 1.865, 3.565, 146.700 and 438.525 MHz. Country relays on major repeaters.
Also in 'Realaudio' format from the VK6WIA website.
- VK7** VK7WIA: Sunday 0900 local, on 1.840 AM and 3.570 MHz and on major repeaters.
VK7 regional news follows at 0930 local, on 7.090 and 14.130 MHz, and on major repeaters.
- VK8** Sunday 0900 local, on 3.555, 7.050, 10.130 and 146.900 MHz.

Note that many clubs broadcast the WIA News via local VHF and UHF repeaters. Check the News section of the WIA website.

Special recognition for Al Shawsmith



At their face to face meeting in early March the WIA Directors considered the WIA merit awards to be announced and presented at the Annual General Meeting, to be held this year on Saturday 24 May 2008 at Broken Hill.

For only the second time in 4 years, the Directors decided to award a GA Taylor Medal, this year to Al Shawsmith, known to all as VK4SS (even though he has passed that callsign on to his son).

However, recognising that Al, now aged over 90, would not be able to be in Broken Hill, the Directors

decided to announce their decision and present the award early.

So on Saturday 29 March 2008 WIA President Michael Owen VK3KI, WIA Vice President Ewan McLeod VK4ERM and National Broadcast Coordinator Graham Kemp VK4BB went to Al Shawsmith's home in Whynot Street, West End, in Brisbane to make the presentation to Al in the presence of his family and friends.

Michael's speech when presenting the award, and Al's response, can be found elsewhere in this issue of *Amateur Radio*.

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